UNITED STATES AIR FORCE

RESERVE MODERNIZATION

AIR FORCE RESERVE COMMAND

2014

Foreword

With the effects of sequestration slowing the pace and scope of modernization, the National Guard and Reserve Equipment Account (NGREA) has played an increased role in preserving the Reserve Component within the Total Force. This remains a critical piece for supporting the joint fight.

The Air Force Reserve is fully engaged across the full spectrum of operations, responding to national crises and day-to-day missions. In recent years, it supported the Total Force with an average of seven percent of its Airmen contributing to operational day-to-day, Air Expeditionary Force, mobilization, and war effort missions—including immediate responses to Hurricane Sandy in New Jersey and Operation JUNIPER MICRON in Mali. The Air Force Reserve provided eight percent of the forces supporting AEF missions, including Operations CORONET OAK, THEATER SECURITY PACKAGE, NOBLE EAGLE, and ENDURING FREEDOM. This makes the Air Force Reserve Command, as one of 10 Air Force Major Commands, the fourth largest contributor to Total Force AEF requirements.

This team effort requires on-going equipment modernization, and the Air Force uses NGREA to maintain leading-edge combat capability on the Reserve's aging equipment. The appropriation bolsters recapitalization of critical equipment in three major areas: mobility air forces, combat air forces, and agile combat support. FY 2012 execution enabled the upgrade of C-130 combat communication systems for battlespace awareness; modernization of the multi-year C-130 Modular Aerial Spray Systems; procurement of A-10 and F-16 helmet-mounted integrated targeting systems; and material handling equipment to support aerial point of embarkation operations. Air Force Reserve Command also has the lead responsibility for WC-130J aircraft, executing all modernization and sustainment functions of the peculiar equipment needed to accomplish the hurricane hunter mission. These efforts, among many others, directly contribute to our ability to support joint operations worldwide.

The Air Force Reserve continues to pursue a warfighter-driven requirements process that solicits, validates, and prioritizes modernization proposals. These are then ranked into the prioritized integrated requirements list and presented to me for approval. The executable items from this list then form the AFR modernization list, which is used to determine the AFR's fiscal year procurement list. This book highlights my highest priorities to maintain our Reserve warfighting capability.

We have answered the nation's call in every major combat engagement, disaster response and humanitarian crisis since the inception of the Air Force Reserve. Properly equipping the Reserve to train and fight in concert with their Active Duty and Air National Guard counterparts will ensure the nation continues to have the operational readiness necessary to meet existing and future challenges. Thank you for your continued support of our Citizen Airmen.

JAMES F. JACKSON, Lt. Gen., USAF
Chief of Air Force Reserve

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UNITED STATES AIR FORCE

RESERVE MODERNIZATION 2014

Contents

Introduction

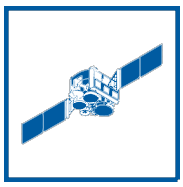
The Air Force Reserve's (AFR) foremost responsibility is to organize, train, and equip Reserve Airmen to meet the needs of our National leadership and Combatant Commanders. As an integral member of the Joint team, America's Air Force provides the critical capabilities of Global Power, Global Reach, Global Vigilance, and Agile Combat Support. The United States Air Force Reserve is "All In" today's Joint fight with a wealth of experienced airmen war fighters. At the same time, our investments in new capabilities will ensure we are ready for tomorrow's challenges.

GLOBAL POWER

The Air Force's ability to control air and space, exploiting the medium to deliver a precise, tailored effect anywhere on the planet. Airborne platforms and the precision-guided munitions they deliver provide a capability that is persistent, precise, survivable, and able to produce tactical, operational, and strategic effects.

GLOBAL REACH

Whether they are humanitarian, military, or a mix of both, the Air Force responds to global challenges with an airlift and tanker fleet that has global reach. Global Reach provides the capability to move people and equipment across the world quickly, ensuring the right force – anywhere, anytime.



GLOBAL VIGILANCE

An accurate picture of the battle-space is critical to understanding and confronting challenges to our national security. Global Vigilance provides the "network" that binds together Air Force Joint and interagency players, ensuring our Nation's ability to see first, think first, and act first.

AGILE COMBAT SUPPORT

Agile Combat Support refers to Air Force enabling systems that provide Global Power, Global Reach, and Global Vigilance to the Joint Team. This document consolidates many of the Agile Combat Support requirements under the Operational Readiness and Infrastructure sections.

The Air Force Reserve 2014 modernization book is a tool to identify the resources needed to support the Air Force Total Force Integration concept. The capabilities in this the document are required to ensure the Air Force Reserve remains ready to support mission success and survivability of our Airmen in today's and tomorrow's contingencies.

Modernization Requirements Process

The AFR's goal in its modernization efforts is to see to it that all combat coded aircraft have the capability to work in unison with the Active Duty Air Force and Air National Guard in all theaters and for any contingency. The Combatant Commanders have established equipment requirements for joint forces in their Areas of Responsibility (AOR) to ensure the most robust combat capability and seamless communication framework exists for the Total Force.

The AFR's requirements process is a bottom-up driven enterprise where the operators present their warfighting needs to be evaluated, validated, and prioritized. Validated requirements can then compete for resources from various funding streams. The venue for this process begins at the AFR Combat Planning Councils (CPC's). There are four CPC's held each year: The Combat Air Forces (CAF) CPC hosted by 10th Air Force , the Mobility Air Forces (MAF) CPC hosted by 22nd Air Force, the Strategic Lift and Aerial Refueling CPC hosted by 4th Air Force, and the Agile Combat Support (ACS) CPC hosted by AFRC/A7/A4. Each CPC establishes a prioritized list according to the requirements being Critical, Essential, or Desired.

CRITICAL

Mission cannot be accomplished without this capability or mission failure/loss of life due to lack of capability.

ESSENTIAL

Mission accomplishment still possible but severely degraded or significant risk taken. Maintains force readiness and supports daily operations.

DESIRED

Mission accomplishment will be enhanced or risk reduced.

The three lists of requirements are then evaluated and validated through panels at Air Force Reserve Command (AFRC). These panels are made up of the Major Command (MAJCOM) Program Managers and Functional Area Managers that provide all oversight to those weapons systems at AFRC. Once the requirements are validated, they are prioritized into a master AFR requirements list called the Prioritized Integrated Requirements List (PIRL). The PIRL is then validated through the Corporate process for presentation to the AFR Requirements Council and eventually, the AFR Commander for approval. The AFR Modernization Book is then derived from the PIRL.

Weapons Systems by State

	A-10	B-52	C-5	C-17	C-130 HC/MC/WC	F-16	HH-60G	KC-135	C-40	C-9
AL					8					
AZ	2						6			
CA				9				15		
CO					13					
FL					6	26	9			
GA					8					
IL									3	2
IN								16		
LA		18								
MA			16							
MD								8		
MN					8					
MO	27									
MS					20					
NC					12			16		
NY					10					
OH			7	9	9					
OK								12		
PA					8					
TX			16			27				
TOTAL	48	18	39	18	102	53	15	67	3	2

No inventory in the following locations at this time: AK, AR, CT, DC, DE, HI, IA, ID, KS, KY, ME, MI, MT, ND, NE, NH, NJ, NM, NV, OR, RI, SC, SD, TN, UT VA, VT, WA, WI, WV, WY.

For program impact and data specifics contact Air Force Directorate of Programs and Requirements at (703) 695-9056.

Top Modernization Priorities/Unfunded Critical Requirements

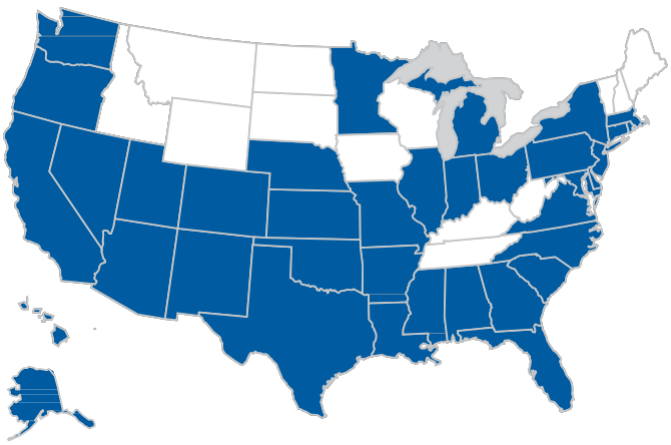
Priority	MWS	Requirement	Page
1	C/HC-130	C-130 CNS/ATM 2020 Capability	69
2	C-130	C-130 Secure Line-of-Sight/Beyond Line-of-Sight (SLOS / BLOS) capability	66
3	A-10	Day/Night Helmet Mounted Integrated Targeting (HMIT)	76
4	GAWS	Guardian Angel Personnel Recovery Mission Equipment	103
5	HH-60G	HH-60G Rotor Brake	92
6	HH-60G	Improved RWR/RF Jammer (APR-39DV2)	95
7	HH-60G	HH-60G Hostile Fire Indication System	91
8	C-130	C-130 Modular Airborne Spray System (MASS)	61
9	C-130	C-130 Improved Night Vision (NVIS) Cockpit Lighting	71
10	C/HC-130	Electronic Prop Control System (EPCS)	62,98
11	HH-60G	Improved Comm Suite	93
12	A-10/F-16/B-52	Advanced targeting pod (ATP) Sensor	30,35,82
14	A-10	Cockpit Modernization (EFIS, HD TGP Video, etc)	23,17
15	A-10	GPS & Datalink Capability in Degraded/Denied Environments	29
17	C-17	C-17 LOS/BLOS Data Link and IP Capability	47
18	C-5	C-5 SLOS/BLOS Data Link	42
19	C-5	C-5 1553 Flight Data Output for Moving Map	43
20	C/HC-130	C-130H/J Improved Propeller	65
21	C-130	C-130 Digital Radar Warning Receiver (RWR)	68
22	C-17	C-17 Integration of Next Gen IR Sensor	48
23	A-10	A-10 Digital Intercom/Spatial Awareness Audio (Upgraded Electronic Warfare Suite For Current Threats)	25
24	F-16	EW Missile warning System (PIDS +)	80
25	C/HC-130	Inflight Propeller Balancing	64,99
26	F-16	Anti-jam GPS	81

Priority	MWS	Requirement	Page
27	HC-130P/N	HC-130P/N AAR-47 BV2 MWS/Hostile Fire Indication System	100
28	F-16	F-16 Digital Intercom/spatial Awareness Audio	78
29	F-16	ALR-69A Upgraded EW Suite For Current Threats	79
30	F-16	Combined Advanced Identification Friend or Foe (AIFF) with Mode 5/S for Reduced Vertical Separation Minimum (RVSM) and Autonomous ID capability	77
31	C-5	C-5 next gen MWS w/ IR video capability	41
32	B-52	Digital Mission Data Recording System	34
33	C-40	C-40 Fuel Tank Fire Suppression (NGS)	54
34	C-5	C-5 Brake temperature monitoring system	39
35	C-40	GPS/SAASM Compliance	55
36	HH-60G	Helmet Mounted Integrated Targeting (HMIT)	94
37	ACS	Corrosion Control Equipment (Media Blast Booth at Keesler and Maxwell)	19
38	ACS	CIO Board Project List	15
39	C-5	C-5 Yoke Mounted Dispensing System	40
40	ACS	Support Equipment	17
41	C-17	C-17 Alternate Flare dispense location capability	49
42	ACS	Vehicles	18
43	ACS	AFR Expeditionary Forces Tactical Equipment	16
44	C-17	C-17 RWR/ECM	50
45	C-40	Crew Rest Seats	56
46	C-17	C-17 ANR Headsets	51
47	A-10	NVIS landing light	27
48	A-10	Deployable Oxygen System (OBOGS)	26
49	A-10	Parking Brake	28


039

Operational Readiness provides premier training, world-class facilities, modern equipment, and unwavering family care.

AGILE COMBAT SUPPORT



While weapons systems are an integral part of the Air Force, the heart of the Air Force combat capability resides with Airmen. To meet Total Force requirements, the Air Force Reserve must attract, develop and retain Citizen Airmen needed to operate and support Air Force weapon systems. To ensure this, the Air Force Reserve must provide premier training, world-class facilities, modern equipment, and unwavering family care.

Air Force Reserve Airmen are called on to perform a wide array of demanding duties. This requires updated, tactical technologies that put them on par with their Active Duty counterparts. Additionally, Reserve vehicles are the oldest of any Air Force component. To provide the seamless integration into the Total Force, our Airmen require upgraded vehicles. The current and future battle-space environments will remain uncertain. To remain the world's premier Air Force, our Airmen must be adequately equipped to train as they will fight. The cornerstone of providing battle-ready Airmen is giving them the best medical care, family support, and work environment possible. In this area, our commitment cannot waiver. If our Airmen are not ready at home, they will not be ready to fight.

AFR operational readiness requirements include expeditionary forces tactical equipment, mission support equipment, corrosion control, vehicle procurement, and numerous items from the AFR Chief Information Officer (CIO) Board Project List.

AGILE COMBAT SUPPORT EXECUTIVE SUMMARY

- Chief Information Officer (CIO) – Purchase numerous items to replace the command's various existing communication assets to include but not limited to spectrum (radio), telephone, network, and combat communication assets for the optimal operation of its AFRC Network/Systems Infrastructure
- Security Forces (SF) and Civil Engineering (CE) Tactical Equipment – Purchase numerous AFR SF, CE, and RED HORSE–required tactical equipment—standardizes units with Active Duty Air Force capabilities
- Support Equipment – Purchase numerous items for mission readiness and training of SF, Aircraft Maintenance, CE and Communications. Items include Night Vision Goggles (NVG), NVG Testers, KC-135 Switch Boxes, Receiver Transmitters and Cutting Systems
- Vehicles – Purchase numerous items for mission readiness and across AFR units. Items include graders, cranes, tow trucks, fuel trucks, utility vans, pick-up trucks, etc.
- Corrosion Control – Purchase items used to clean, strip and remove paint from support equipment for inspection, repair and refurbishment to ensure sustainability of critical assets

For program impact and data specifics contact Air Force Directorate of Programs and Requirements at (703) 695-9056.

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AFRC CIO Board Project List

BACKGROUND

- AFR Chief Information Officer (CIO) prioritized approach to replace/enhance existing communication assets (radio, telephone, network, and combat communication assets)
- Required for adherence to mandated standards and sustained operation of the AFRC Network and Communications Systems Infrastructure
- Ensures AFRC units are postured to optimally execute missions and operations that require the use of computer systems and contribute to the nations' readiness and defense

REQUIREMENT/SOURCE OF NEED

- Various assets to support the command's IT infrastructure for operational compliance with DOD/AF/AFRC architectural standards that will optimize the operation of the command's programs, databases, and NIPRNET/SIPRNET communications systems infrastructure
- Driven by various directives and program plans, to include the Defense Information Systems Agency's Unified Capabilities Plan, and support Air Force Instruction (AFI) 33-101 and other operational AFIs

UNITS IMPACTED

- Multiple AFR Bases/Units

CONTRACTOR: TBD

PROGRAM ELEMENT CODE (PEC): 55550F

IN AF POM: No

For program impact and data specifics contact Air Force Directorate of Programs and Requirements at (703) 695-9056.

AFR Expeditionary Forces Tactical Equipment

BACKGROUND

- Funds AFRC Security Forces Unit Type Code (UTC)-required tactical equipment and training systems—standardizes units with Active Duty Air Force capabilities
- Completes procurement of UTC equipment required to achieve parity with Active Duty Security Forces squadrons

REQUIREMENT/SOURCE OF NEED

- Requirements initiated at unit level to fill UTC's, end items, upgrades, etc.

UNITS IMPACTED

- All AFRC Security Forces Squadrons at Host and Tenant locations

CONTRACTOR

- Equipment will be purchased through existing procurement contracts that are managed by the Weapons Program Management Office or through GSA approved sources. No additional competitive procurement is planned

PROGRAM ELEMENT CODE: 27580F

IN AF POM: Requirement not included in AFRC POM

AFR Support Equipment

BACKGROUND

- Funds Support Equipment (SE) shortfalls that range across all functional areas including "tooth" capabilities: flight line maintenance, munitions, and security forces
- Historically the Air Force has never adequately funded the SE program
- Items purchased by procurement funds (3010 and 3080) are programmed by the Air Force Materiel Command (AFMC) Depot Program Management Office AFR prioritizes needs, but can contribute NGREA for unfunded items

REQUIREMENT/SOURCE OF NEED

- Requirements initiated at unit level to fill UTC's, end items, upgrades, etc.

UNITS IMPACTED

- Various AFRC bases/units

CONTRACTOR

- SE will be purchased through existing procurement contracts that are managed by the AFMC Depot Program Management Offices
- No additional competitive procurement is planned

PROGRAM ELEMENT CODE: 52834F

IN AF POM: Requirement is included in AFRC POM

For program impact and data specifics contact Air Force Directorate of Programs and Requirements at (703) 695-9056.

AFR Vehicle Procurement

BACKGROUND

- Vehicle program is typically underfunded and a regular source for Air Force cuts
- The vehicle requirements are currently identified in Air Force standard system; however, the funding is not available for the procurement of these assets

REQUIREMENT/SOURCE OF NEED

- Requirements initiated at unit level to fill UTC's, end items, upgrades, etc.

UNITS IMPACTED

- Various AFRC bases/units

CONTRACTOR

- Vehicles will be purchased through exisiting procurement contracts that are managed by the Warner Robins-Air Logistics Center (WR-ALC) Capabilites and Integrations Section
- No additional competitive procurement is planned

PROGRAM ELEMENT CODE: 52834F

IN AF POM: Requirement is included in AFRC POM

AFR Corrosion Control

BACKGROUND

- Funds items used to clean, strip and remove paint from support equipment for inspection, repair and refurbishment to ensure sustainability of critical assets
- Included components consist of the enclosure, lighting, work and man-access doors, recovery floor module, pneumatic transport system, cyclonic separation, storage hopper, electrical control panel and dust collectors. Blast components will include the pressure vessel, blast hoses, nozzles, remote controls, compressor, and operator safety equipment
- Unit Compliance Inspection (UCI), Logistics Compliance Assessment Program (LCAP) and MAJCOM inspection results across AFRC inspect Corrosion Control Facilities and expect them to be in compliance

REQUIREMENT/SOURCE OF NEED

- Requirements initiated at unit level to fill UTC's, MDS, end items, upgrades, etc.

UNITS IMPACTED

- Various AFRC bases/units

CONTRACTOR

- Current contractor is Pauli Systems, Fairfield California
- Contractors determined via availability and price comparison

PROGRAM ELEMENT CODE:

IN AF POM: Requirement is included in AFRC POM


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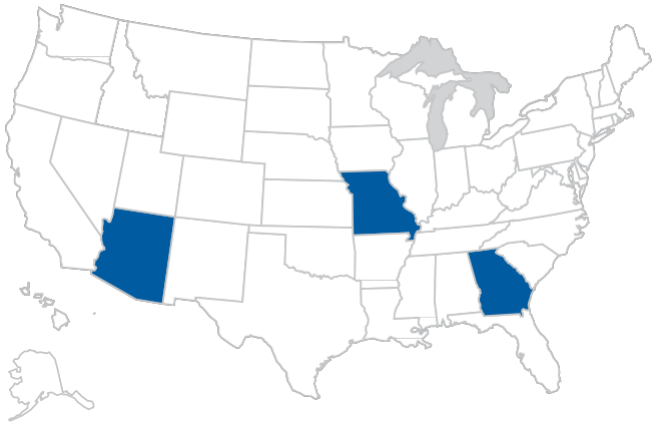
A-10 Thunderbolt II

Provides 24/7 close air support, precision strike, forward air control, and combat search and rescue from remote austere locations.

GLOBAL POWER



The A-10 Thunderbolt II is the primary Air Force Close Air Support ground attack fighter. Operating 24/7 from austere forward locations the A-10 uses its internal 30mm cannon and external precision weapons load to conduct close air support, precision strike, forward air control, and combat search and rescue. It is a highly effective, lethal, and survivable twin-engine jet aircraft used against all ground targets including tanks, other armored vehicles and hardened ground support equipment.

The Air Force Reserve maintains two A-10 units; the 442nd Fighter Wing, Whiteman Air Force Base (AFB), MO., and the 924th Fighter Group, Davis Monthan AFB, AZ. Since 2007 the Air Force Reserve has teamed with Air Combat Command to maintain an A-10 associate unit with over 200 reservists supporting the Active Duty Air Force's 23rd Wing at Moody Air Force Base, GA.

The Air Force Reserve A-10s require aircraft avionics and systems modernization upgrades to enable this highly accurate weapons platform to continue its critical mission performance throughout its planned lifespan. These upgrades include installation of a new Center Display Unit, Advanced Targeting Pod spiral upgrades, addition of on-board oxygen generating systems, helmet mounted integrated targeting systems, newer combat search and rescue radios, and a 3D Audio system which improves situational awareness, threat reaction times, and communication intelligibility.

A–10 EXECUTIVE SUMMARY

- A-10/F-16 CDU - Replace AFRC A-10/F-16 aging mechanical/analog fight instruments on the center pedestal with a digital Center Display Unit (CDU) display
- A-10/F-16 HMIT - Helmet Mounted Integrated Targeting (HMIT) capability for AFR A-10/F-16
- A-10/F-16 3D Audio – 3D Audio provides a spatial acoustical environment in which threat warnings and communications are easy to distinguish. 3D Audio increases situational awareness, significantly improves threat reaction time and communication intelligibility
- A-10 OBOGS - Procure/install On Board Oxygen Generation System (OBOGS) for all AFR A-10s to increase operational efficiency
- A-10 Covert Overt Light Assembly (COLA) aircraft landing/taxi lights with a more capable and more sustainable lighting system that is compatible with night vision devices
- A-10 parking brake. A-10 pilots train and conduct combat operations from austere fields having limited infrastructure and equipment which create difficulties for aircraft shut down during ground alert periods or post Forward Area Arming and Refueling (FAAR) operations

- A-10 Anti-Jam GPS replaces the A-10's GPS antenna with new antennas that are resistant to ground based GPS jamming thus preserving highly accurate navigation and precision weapon targeting
- ATP Spiral Upgrade - LITENING advanced targeting pod spiral technology upgrades. These are upgrades to existing AFRC pods to keep them current and relevant

A-10C/F-16C Center Display Unit (CDU)

BACKGROUND

- AFRC F-16C and A-10C analog cockpit instruments are becoming increasingly difficult to maintain and are affected by diminishing material and manufacturing sources
- The CDU will replace the analog flight instruments with digital instrument displays
- The displays have the processing capacity to manipulate data external to the aircraft operational flight program
- The processors in the displays will provide pilots the ability to securely transfer still images, such as a targeting pod scenes, joint tactical air controller taskings, and target area imagery. This capability is critical to rapid coordination with ground units during close air support missions and with command and control assets during time sensitive and emerging target operations

REQUIREMENT

- Install smart multifunction color displays into the F-16 and A-10 to replace mechanical/analog fight and engine monitoring instruments on the center console
- Critical priority number 14 out of 41 from 10th Air Force 2013 CPC

UNITS IMPACTED

- 924 Fighter Group, Davis Monthan AFB, AZ
- 301st Fighter Wing, Naval Air Station Joint Reserve Base, Ft Worth, TX
- 482nd Fighter Wing, Homestead ARB, FL
- 442nd Fighter Wing, Whiteman AFB, MO

CONTRACTOR: Raytheon Corp, Indianapolis, IN, for the F-16 solution; Contractor not yet selected for the A-10 solution

PROGRAM ELEMENT CODE: A10: 52713F F16: 52716F

IN AF POM: No

A-10C/F-16C Helmet Mounted Integrated Targeting (HMIT)

BACKGROUND

- HMIT is a Combatant Commander urgent operational need directing a common helmet mounted cueing system on Block 30 F-16C and A-10C
- Number one critical priority out of 41 from the 10th AF 2013 Combat Planning Council
- HMIT supports the Global Power critical capability and the air superiority and global precision attack core functions of the Air Force
- HMIT provides flight and weapons information to a display in the pilot's helmet increasing the effectiveness of all A-10 and F-16 missions
- A-10 and F-16 system program offices teamed to developed common interface and specifications

REQUIREMENT

- Provide Helmet Mounted Integrated Targeting (HMIT) capability to AFRC A-10C/F-16C
- Replace HMIT magnetic tracking system with new optical tracking system

UNITS IMPACTED

- 924 Fighter Group, Davis Monthan AFB, AZ
- 301st Fighter Wing, Naval Air Station Joint Reserve Base, Ft Worth, TX
- 482nd Fighter Wing, Homestead ARB, FL
- 442nd Fighter Wing, Whiteman AFB, MO

CONTRACTOR: Raytheon Technical Services, Indianapolis IN; Thales Visionix, Inc, Aurora, IL; GENTEX Corp, Carbondale, PA

PROGRAM ELEMENT CODE: A10: 52713F F16: 52716F

IN AF POM: No

A-10/F-16 3D Audio

BACKGROUND

- Audio information comes to the A-10/F-16 pilots from four radios, the threat warning receivers and the aircraft itself. 3D audio provides a spatial acoustical environment in which threat warnings and communications are easy to distinguish. 3D audio increases situational awareness, significantly improves threat reaction time and communication intelligibility
- 3D audio integrates a digital intercom system, active and electronic noise reduction, three-dimensional spatial separation of multiple radio channels and three-dimensional auditory threat cueing
- 3D audio system is in use on F-16s in Europe
- The Air Force Armaments Cooperation Division (SAF/IAPQ) funded 3D audio Foreign Comparative Test
- Test starts on A-10 in October 2013
- Critical requirement number 19 of 41 from the 2013 10th Air Force Combat Planning Council

REQUIREMENT

- Integrate 3D audio into AFRC A-10 and F-16 aircraft

UNITS IMPACTED

- 924 Fighter Group, Davis Monthan AFB, AZ
- 301st Fighter Wing, Naval Air Station Joint Reserve Base, Ft Worth, TX
- 482nd Fighter Wing, Homestead ARB, FL
- 442nd Fighter Wing, Whiteman AFB, MO

CONTRACTOR: TERMA North America, Warner Robins, GA

PROGRAM ELEMENT CODE: F16: 52716F A-10: 52720/52717F

IN AF POM: No

A-10 On Board Oxygen Generating System (OBOGS)

BACKGROUND

- Liquid Oxygen (LOX) is #1 issue preventing austere and bare base operations due to manpower and footprint associated with LOX generation and storage
- OBOGS has been proven in active duty A-10s to:
    - Improve deployment capability and responsiveness
    - Increase safety, loiter time, and aircraft availability
    - Reduce sortie generation time
    - Reduces servicing cost, manpower, deployment footprint

REQUIREMENT

- Procure/install OBOGS for new AFRC A-10 squadron at Davis Monthan AFB, AZ

UNITS IMPACTED

- 47th Fighter Squadron Davis Monthan AFB, AZ

CONTRACTOR: Carlton Life Support Systems, Davenport, IA

PROGRAM ELEMENT CODE: A-10: 52720/52717F

IN AF POM: No

A-10 Covert Overt Landing Assembly (COLA)

BACKGROUND

- The existing A-10 landing/taxi light system consists of two 450 watt lights one angled down for landing and one parallel to the ground that rotates with the nose wheel for taxi
- The landing light is not compatible with night vision equipment and the taxi light must be replaced with a lower wattage light and then covered with a filter
- These seal-beam lights have a very low meantime between failure and the heat trapped by the night vision filter cracks the light and melts the filter. These failures drive supply shortages and increase maintenance time on the aircraft
- The lack of covert landing light seriously limits night operations as documented in Air Combat Command project 06-25A, A-10 Forward area Arming and Refueling Tactics Development and Evaluation

REQUIREMENT

- Replace A-10 landing/taxi lights with a more capable/more sustainable lighting system

UNITS IMPACTED

- 442nd Fighter Wing, Whiteman AFB, MO
- 47th Fighter Squadron Davis Monthan AFB, AZ

CONTRACTOR: Undetermined

PROGRAM ELEMENT CODE: A-10: 52720/52717F

IN AF POM: No

A-10 Parking Brake

BACKGROUND

- The A-10 fleet does not have a parking brake. A-10 pilots are routinely training and conducting combat operations from austere fields having limited infrastructure and equipment which creates difficulties for aircraft shut down during ground alert periods or for Forward Area Arming and Refueling (FAAR) operations
- Other situations requiring a parking brake include execution of an emergency ground egress on a sloped surface and extended ground holding time during local thunderstorm conditions
- Parking brake is part of austere operations capability and supports the Global Power critical capability and the global precision attack core function of the Air Force

REQUIREMENT/SOURCE OF NEED

- Parking Brake is part of the A-10 austere field operations critical requirement from the 2012 weapons and tactics conference

UNITS IMPACTED

- 924 Fighter Group , Davis Monthan AFB, AZ
- 442nd Fighter Wing, Whiteman AFB, MO

CONTRACTOR: Contracting in progress

PROGRAM ELEMENT CODE: A-10: 52720/52717F

IN AF POM: No

A-10 Anti-Jam GPS

BACKGROUND

- Current early generation GPS antenna on the A-10 has no anti-jam capability
- Adversary GPS jamming tactics and capabilities have advanced to the point where the A-10 may be vulnerable to GPS jamming
- A new sophisticated antenna, antenna switching unit and GPS processor is required to overcome adversary GPS jamming capability
- The Air Force Research Lab (AFRL) is conducting a side by side test of the Anti-Jam capability with a CRPA antenna and the GEM6/DIGAR verses GSTAR/Trimble hardware. Report due in April 2014

REQUIREMENT/SOURCE OF NEED

- Critical requirement number 15 of 41 on the 10th Air Force 2013 prioritized requirements list
- Increase the A-10's resistance to GPS jamming
- Install new form-fit anti-jam antenna and 24 channel selective availability anti-spoofing module (SAASM)

UNITS IMPACTED

- 442nd Fighter Wing, Whiteman AFB, MO
- 47th Fighter Squadron Davis Monthan AFB, AZ

CONTRACTOR

- Lockheed Martin, Owego, NY
- ITT Exelis Geospatial Systems, Rochester, NY
- Rockwell Collins, Cedar Rapids, IA

PROGRAM ELEMENT CODE: A-10: 52720F

IN AF POM: No

LITENING A-10/F-16/B-52 ATP Procurement and Spiral Upgrades

BACKGROUND

- LITENING advanced targeting pod (ATP) spiral technology upgrades. These are upgrades to existing AFR pods to keep them current and relevant
- Currently fielded pods employ LITENING Block 1 (Blk 1) and Generation Four (G4) spiral upgrades with Forward Looking Infrared (FLIR), electro-optical television/Charged Coupled Devices (CCD), and Laser Spot Search and Track (LSS/LST) to offer exceptional standoff capability and the ability to target J-Series weapons
- The next ATP modernization spiral for LITENING is the Sensor Enhanced (SE) modernization. The imagery will allow for greater stand-off ranges and increase target identification as well as employing a Plug-N-Play (PnP) IIITM digital two-way, data link LRU inside the pod which will enhance working with ground parties and troops in contact

REQUIREMENT/SOURCE OF NEED

- Critical requirement number 2 of 85 on the 10th Air Force 2013 prioritized requirements list
- Procure Sensor Enhanced spiral upgrade kits for all AFR ATPs

UNITS IMPACTED

- 357th Fighter Sq. Davis Monthan AFB, AZ
- 307th Bomb Wing, Barksdale AFB, LA
- 482nd Fighter Wing, Homestead ARB, FL
- 442nd Fighter Wing, Whiteman AFB, MO
- 924 Fighter Group , Davis Monthan AFB, AZ
- 301st Fighter Wing, NAS Fort Worth JRB, TX

CONTRACTOR: Northrop Grumman Corp, Rolling Meadows, IL

PROGRAM ELEMENT CODE: A10: 52720F; F-16: 52716F; B-52: 51720F

IN AF POM: No

B-52H Stratofortress

Serves as the workhorse of the conventional bomber fleet possessing intercontinental range and a large, diverse weapons payload.

GLOBAL POWER

The B-52 is an air refuelable, long-range bomber capable of performing a variety of missions, including strategic attack, precision strike, air-defense suppression, and maritime interdiction. The B-52 employs cruise missiles, the Harpoon Anti-Ship Missile, and precision munitions including laser guided bombs and Joint Direct Attack Munitions (JDAM). The airframe is certified to the year 2040.

The Air Force Reserve maintains B-52 aircraft assigned to the 307th Bomb Wing, Barksdale AFB, LA and is currently the only command that produces new aircrew for this aircraft through the Flying Training Unit (FTU) program.

Contractors include: Boeing (airframe), Pratt & Whitney (propulsion), ITT (major subsystems) and Honeywell (Avionics Midlife Improvement).

The B-52 requires installation of a Digital Mission Data Recorder and upgrades to the LITENING Advanced Targeting Pod (ATP) through spiral upgrades to maintain training and combat effectiveness.

EXECUTIVE SUMMARY

B-52H Digital Mission Data Recorder (DMDR) – Provides Playback station software capable of synchronizing multiple channels from the same aircraft and multiple channels from multiple aircraft. It provides the USAF a capability not provided with current audio/video recorders. Event cueing is also a capability not provided with current audio/video recorders. These capabilities will enhance USAF de- brief, fault data and battle damage assessment functions. Quality and timeliness of mission information are keys to efficient training and debrief of Flying Training Unit personnel and directly impacts student production capabilities.

- ATP Spiral Upgrade - LITENING advanced targeting pod spiral technology upgrades. These are upgrades to existing AFRC pods to keep them current and relevant

B-52H Digital Mission Data Recorder (DMDR)

BACKGROUND

- B-52 Airborne Video Tape Recorders are no longer supportable or sustainable resulting in the most missions f lown without recording capability
- Present capabilities have been lost due to complete lack of available repair sources
- Equipment is so old that manufacturers no longer support parts/repair
- Increasing sophistication of aircraft systems drives a requirement for monitoring in-flight information for a variety of reasons. Among these requirements are: Student de-brief at Training Units, Rangeless Electronic Warfare Training, Weapons effect assessment, in-flight events documentation, in-flight fault data recording, in-flight systems monitoring, and in-flight intelligence gathering
- Supports the following concepts of operation (CONOPs): Global Strike, Close Air Support, Train & Equip

REQUIREMENT/SOURCE OF NEED

- Critical Need (2), 10th Air Force Requirement, Ranked 35 of 85
- Procure multi-channel, audio/video mission data recording system to effectively accomplish the B-52 Flying Training Unit (FTU) mission

UNITS IMPACTED

- 307th Bomb Wing, Barksdale AFB, LA

CONTRACTOR

- Boeing Military Aircraft, Wichita, KS
- EFW Systems, Ft. Worth, TX
- Calculex Corp, Las Cruces, NM

PROGRAM ELEMENT CODE: 51720F

IN AF POM: No

LITENING A-10/F-16/B-52 ATP Procurement and Spiral Upgrades

BACKGROUND

- LITENING advanced targeting pod (ATP) spiral technology upgrades. These are upgrades to existing AFR pods to keep them current and relevant
- Currently fielded pods employ LITENING Block 1 (Blk 1) and Generation Four (G4) spiral upgrades with Forward Looking Infrared (FLIR), electro-optical television/Charged Coupled Devices (CCD), and Laser Spot Search and Track (LSS/LST) to offer exceptional standoff capability and the ability to target J-Series weapons
- The next ATP modernization spiral for LITENING is the Sensor Enhanced (SE) modernization. The imagery will allow for greater stand-off ranges and increase target identification as well as employing a Plug-N-Play (PnP) IIITM digital two-way, data link LRU inside the pod which will enhance working with ground parties and troops in contact

REQUIREMENT/SOURCE OF NEED

- Critical requirement number 2 of 85 on the 10th Air Force 2013 prioritized requirements list
- Procure Sensor Enhanced spiral upgrade kits for all AFR ATPs

UNITS IMPACTED

- 357th Fighter Sq. Davis Monthan AFB, AZ
- 307th Bomb Wing, Barksdale AFB, LA
- 482nd Fighter Wing, Homestead ARB, FL
- 442nd Fighter Wing, Whiteman AFB, MO
- 924 Fighter Group , Davis Monthan AFB, AZ
- 301st Fighter Wing, NAS Fort Worth JRB, TX

CONTRACTOR: Northrop Grumman Corp, Rolling Meadows, IL

PROGRAM ELEMENT CODE: A10: 52720F; F-16: 52716F; B-52: 51720F

IN AF POM: No


AIR FORCE RESERVE COMMAND
6230

C-5 Galaxy

The C-5 Galaxy provides inter-theater airlift in support of U.S. National Defense.

GLOBAL REACH

The C-5 Galaxy can carry outsize and oversize cargo over intercontinental distances and can take off or land within relatively short distances. The C-5 Galaxy and the C-17 Globemaster III are partners in the Air Force's strategic airlift concept. The Air Force Reserve operates C-5 aircraft at the 433rd Airlift Wing, Lackland AFB, TX; and the 439th Airlift Wing, Westover ARB, MA.

The 433rd Airlift Wing at Lackland AFB is home to the Air Force's C-5 Formal Training Unit (FTU), which supports aircrew training for the entire C-5 fleet. The AFR associates with the active duty on C-5 aircraft at the 512th Airlift Wing, Dover AFB, DE and 349th Air Mobility Wing, Travis AFB, CA.

EXECUTIVE SUMMARY

- C-5 Brake Temperature Monitoring System (BTMS)- System provides a means of measuring brake temperatures and alerting the flight crew of brake temperature conditions
- C-5 Yoke Mounted Expendables Dispenser Switch- YMEDS is additional chaff and flare dispenser switch, hard wired into or onto the pilot and copilot yokes on C-5 aircraft. The switch is similar to the dispense switch currently installed and in use on the MC-130 SOF platforms but includes a chaff dispensing capability
- C-5 Next Generation Missile Warning- Upgrade to the current AAR-54 (LAIRCM Missile Warning System) is available which would provide advanced IR threat detection significantly increasing the C-5 defensive systems effectiveness

- C-5 Line of Sight/Beyond Line of Sight Secure Voice and Data Comm. - Modify C-5 with voice and data link and data transfer capability to provide aircrews the ability to report and receive battlespace information from monitoring C2 agencies such as position of other aircraft, weather, threat, mission events, mission status, task completion, resource status, etc.
- C-5 Integrated Pilot Situational Awareness Display - System will display information pertinent to aircrew situational awareness , electronic publications and DATA Link

C-5 Brake Temperature Monitoring System

BACKGROUND

- Pilots need to know the level of risk they face during a landing so they can determine if they should taxi away from other aircraft and ground personnel
- The C-5 fleet historically experiences overheated brake conditions which may cause a fuse to blow or necessitate tire, wheel, and brake inspection or other maintenance actions. The condition may be caused by severe usage or excessive drag
- When extreme overheat is experienced the carbon heat stack requires replacement on all affected wheels. Elevated temperatures also cause brake seal leakage resulting in brake fires that can damage brakes, wheels, tires, and axles
- Brake temperature sensors to the C-5 brake system will allow aircrew to monitor, in real time, brake temperatures and system performance. This will ensure crews can respond to excessive temperatures in a timely manner
- System will enhance Take Off and Landing Data (TOLD) application and ground handling procedures. The ability to record and track brake temperatures will also assist maintenance personnel in monitoring system operations to identify degradation prior to system failure

REQUIREMENT

- Modify C-5 aircraft with Brake Temperature Monitoring System (BTMS) to provide a means of measuring brake temperatures and alerting the flight crew of brake temperature conditions
- System will satisfy safety investigation recommendations (Class C, June 2003, Brake Fire, AFSAS ID# 319526

UNITS IMPACTED

- 433rd Air Mobility Wing, Lackland AFB TX
- 439th Air Wing, Westover ARB, MA

CONTRACTOR: TBD

PROGRAM ELEMENT CODE: 54219F

IN AF POM: No

C-5 Yoke Mounted Expendable Dispense Switch

BACKGROUND

- The yoke mounted expendables dispenser switch is an additional chaff and flare dispenser switch, hard wired into or onto the pilot and copilot yokes on C-5 aircraft. The switch is similar to the dispense switch currently installed and in use on the MC-130 SOF platforms but includes a chaff dispensing capability
- Currently fielded airlift defensive systems do not optimally protect aircraft from advanced IR threats
- Yoke mounted expendable switch would complements flare-based defensive systems currently used and provides increased protection against advanced and emerging IR missile threats
- Crew duties of the observers sometimes restrict the ability of the crew to immediately respond to threat indications and callouts. The pilots are always seated at their duty station during combat operations and would be able to immediately dispense countermeasures with no loss of mission capability or decrease in safety through the push of a button should other crewmembers be away from their station performing in-flight duties

REQUIREMENT

- Air Force Reserve Command Combat Planning Council, 2012

UNITS IMPACTED:

- 433rd Air Mobility Wing, Lackland AFB TX
- 439th Air Wing, Westover ARB, MA

CONTRACTOR: TBD

PROGRAM ELEMENT CODE: 54219F

IN AF POM: No

C-5 Next Generation Threat Detection System with IR Video Capability

BACKGROUND

- Current C-5 aircraft defensive suite (ADS) is only effective against very specific surface-to-air threats operating within very specific parameters
- Upgrade to the current threat detection system is available which would provide IR threat detection significantly increasing the C-5 ADS effectiveness
- Aircrews under the current aircraft configuration are blind from 140o - 220o aspect, thus leaving the crews vulnerable to and unaware of any rear engagements The upgraded system must be capable of taking the multiple OSC rendered IR images and electronically "stitching" them together to provide a 360 degree (azimuth and elevation) picture displayed at the loadmaster and cockpit flight stations allowing crewmembers to scan previously blind sectors and react accordingly
- Another significant benefit is increasing drop zone/landing zone acquisition during low light/low visibility conditions and added visibility during aircraft backing operations

REQUIREMENT

- LAIRCM Operational Requirements Document 314-92, August 1998

UNITS IMPACTED

- 433rd Air Mobility Wing, Lackland AFB TX
- 439th Airlift Wing, Westover ARB, MA

CONTRACTOR: Northrop Grumman, Rolling Meadows, IL

PROGRAM ELEMENT CODE: 54219F

IN AF POM: No

C-5 Secure Line of Sight (SLOS)/Beyond Line of Sight (BLOS) Voice and Data Communication

BACKGROUND

- Current information-based dynamic battlespace environments require secure airborne voice/data communications with other aircraft, Command and Control (C2) agencies, and ground-based forces
- Voice and Data link and data transfer will provide aircrews the ability to report and receive battlespace information from monitoring C2 agencies such as position of other aircraft, weather, threat, mission events, mission status, task completion, resource status, etc.
- Increased situational awareness allows agencies the ability to track mission progress, facilitating rapid decisions and adjustments during mission execution
- Near real-time aircrew reporting will enable information exchanges with global and theater Air Operations Centers and Mobility Air Force assets (to include those that are airborne), which will improve synchronization of supporting and supported forces

REQUIREMENT

- Air Mobility Command C-5 Requirements & Planning Council, June 2012

UNITS IMPACTED

- 433rd Air Mobility Wing, Lackland AFB TX
- 439th Airlift Wing, Westover ARB, MA

CONTRACTOR: TBD

PROGRAM ELEMENT CODE: 54219F

IN AF POM: No

C-5 Integrated Pilot Situational Awareness Display

BACKGROUND

- Current situational awareness tools either require the aircrew to bring multiple laptops onboard the aircraft or the tools are otherwise unavailable to the aircrew simply because there is no direct or economical way to provide the information to the aircrew using the aircraft
- Lack of real time data for supplemental applications like FalconView creates situations that increase aircrew workload, increase flight risk in hostile areas, and significantly lowers overall mission
- The time and expense required to incorporate quickly evolving situational awareness tools into the C-5 mission computer software is cost prohibitive and untimely in terms of rapid release
- This application could be formalized to address the aircrew need for additional toolsets and situational information in hostile
- The touchscreen capabilities would permit pilot interaction with the application hosted on the laptop(s). Such an arrangement would facilitate rapid response and evolution of required applications without the extensive time and expense associated with updating the avionics

REQUIREMENT

- AMC 1067

UNITS IMPACTED

- 433rd Air Mobility Wing, Lackland AFB TX
- 439th Air Wing, Westover ARB, MA

CONTRACTOR: TBD

PROGRAM ELEMENT CODE: 54219F

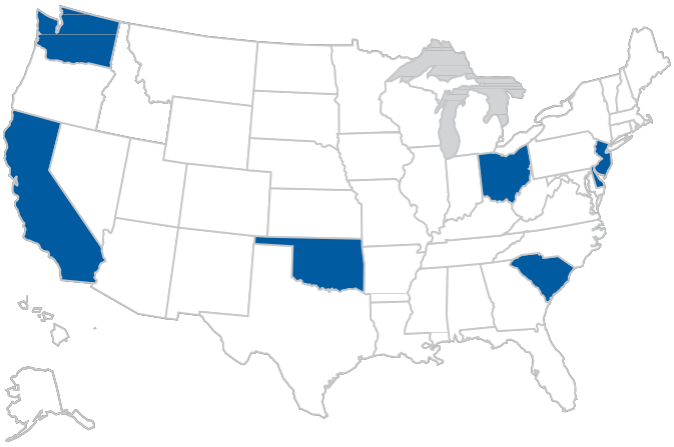
IN AF POM: No


U.S. AIR FORCE
8204
437TH AW
315TH AW

C-17 Globemaster

Provides INTER-theater and INTRA-theater airlift in support of U.S. national defense.

GLOBAL REACH



The C-17 Globemaster III provides the Air Force with inter-theater and intra-theater airlift in support of U.S. national defense. It is capable of performing combat airdrop and can land on short, austere airfields. The inherent flexibility and performance of the C-17 fleet improves the ability of the total airlift system to meet the worldwide air mobility requirements of the United States.

The Air Force Reserve (AFR) operates C-17s at the 452nd Air Mobility Wing, March ARB, CA and the 445th Air Mobility Wing, Wright-Patterson AFB, OH. The AFR associates with the active duty on C-17 aircraft at the 315th Airlift Wing, Charleston AFB, SC; the 446th Airlift Wing, McChord AFB, WA; the 514th Air Mobility Wing, McGuire AFB, NJ; the 512th Airlift Wing, Dover AFB, DE; 349th Air Mobility Wing, Travis AFB, CA; and the 730th Air Mobility Training Squadron, Altus AFB, OK.

Contractors include Boeing Aircraft (airframe), Pratt & Whitney (propulsion), and Vought Aircraft Industries (major airframe components).

Required capabilities include: C-17 assault landing zones for March ARB and Wright-Patterson AFB, and new Noise Reduction Headsets for aircrew members.

C-17 EXECUTIVE SUMMARY

- Secure Line of Sight/Beyond Line of Sight Communication - Modify C-17 with voice and data link and data transfer capability to provide aircrews the ability to report and receive battlespace information from monitoring C2 agencies such as position of other aircraft, weather, threat, mission events, mission status, task completion, resource status, etc.
- Next Generation Missile Warning- Upgrade to the current AAR-54 (LAIRCM Missile Warning System) is available which would provide advanced IR threat detection significantly increasing the C-17 defensive systems effectiveness
- C-17 Stick Mounted Expendable Switch - stick mounted expendables dispenser switch is additional chaff and flare dispenser switch, hard wired into or onto the pilot and copilot control stick on C-17 aircraft. The switch is similar to the dispense switch currently installed and in use on the MC-130 SOF platforms but includes a chaff dispensing capability
- C-17 Radar Warning Receiver (RWR) - Modern RWRs feature digital receiver architectures, increased sensitivity and improved threat location accuracy
- C-17 Active Noise Reduction (ANR) Headsets- ANR headset for the C-17 which will ultimately reduce fatigue associated with hazardous noise levels and increase hearing protection for AFRC aircrews

C-17 Secure Line of Sight (SLOS)/Beyond Line of Sight (BLOS) Voice and Data Communication

BACKGROUND

- Current information-based dynamic battlespace environments require secure airborne voice/data communications with other aircraft, Command and Control (C2) agencies, and ground-based forces
- Voice and Data link and data transfer will provide aircrews the ability to report and receive battlespace information from monitoring C2 agencies such as position of other aircraft, weather, threat, mission events, mission status, task completion, resource status, etc.
- Increased situational awareness allows agencies the ability to track mission progress, facilitating rapid decisions and adjustments during mission execution
- Near real-time aircrew reporting will enable information exchanges with global and theater Air Operations Centers and Mobility Air Force assets (to include those that are airborne), which will improve synchronization of supporting and supported forces

REQUIREMENT

- Air Mobility Command C-17 Requirements & Planning Council, Jun 2012

UNITS IMPACTED

- 452nd Air Mobility Wing, March AFB, CA
- 445th Airlift Wing, Wright-Patterson AFB, OH

CONTRACTOR: TBD

PROGRAM ELEMENT CODE: 54214F

IN AF POM: No

C-17 Next Generation Threat Detection System with IR Video Capability

BACKGROUND

- Current C-17 aircraft defensive suite (ADS) is only effective against very specific surface-to-air threats operating within very specific parameters
- Upgrade to the current AAR-54 OSCs is available which would provide IR threat detection significantly increasing the C-17 ADS effectiveness
- Aircrews under the current aircraft configuration are blind from 140° - 220° aspect, thus leaving the crews vulnerable to and unaware of any rear engagements The upgraded system must be capable of taking the multiple OSC rendered IR images and electronically "stitching" them together to provide a 360 degree (azimuth and elevation) picture displayed at the loadmaster and cockpit flight stations allowing crewmembers to scan previously blind sectors and react accordingly
- Another significant benefit is increasing drop zone/landing zone acquisition during low light/low visibility conditions and added visibility during aircraft backing operations

REQUIREMENT

- LAIRCM Operational Requirements Document 314-92, August 1998

UNITS IMPACTED

- 452nd Air Mobility Wing, March AFB, CA
- 445th Airlift Wing, Wright-Patterson AFB, OH

CONTRACTOR: Boeing, San Antonio, TX; Northrop Grumman, Rolling Meadows, IL

PROGRAM ELEMENT CODE: 54214F

IN AF POM: No

C-17 Alternate Countermeasure Dispense Capability

BACKGROUND

- The current location of the C-17A Counter Measure Dispense System (CMDS) on the center pedestal creates a hazard requiring at least one pilot to deviate from primary flight duties
- A stick mounted expendables dispenser switch provides an increased capability and covers a gap during specific phases of flight to counter and defeat threats most often faced by deployed crews
- Current and OPLAN mission threat environments require immediate dispensing of countermeasures against infrared frequency (IR/RF) threats
- Crew duties of the observers sometimes restrict the ability of the crew to immediately respond to threat indications and callouts. The pilots are always seated at their duty station during combat operations and would be able to immediately dispense countermeasures with no loss of mission capability or decrease in safety through the push of a button should other crewmembers be away from their station performing in-flight duties

REQUIREMENT

- Air Mobility Command C-17 Requirements & Planning Council, Jun 2012

UNITS IMPACTED

- 452nd Air Mobility Wing, March AFB, CA
- 445th Airlift Wing, Wright-Patterson AFB, OH

CONTRACTOR: TBD

PROGRAM ELEMENT CODE: 54214F

IN AF POM: No

C-17 Radar Warning Receiver (RWR)

BACKGROUND

- The AFRC C-17 fleet has does not have a RWR
- USTRANSCOM taskings in future operations against numerous adversaries could require C-17 operations against Strategic and Tactical Surface to Air Missiles as well as possible Air-to-Air threats
- Current system limitations require C-17 dependence on off-board sensors to relay pertinent threat information. This utilizes limited resources which could be better utilized elsewhere
- Modern RWR's feature digital receiver architectures, increased sensitivity and improved threat location

REQUIREMENT

- AN/ALR-69A Capabilities Production Document approved by the Air Force Requirements Oversight Council (AFROC), 17 November 2005

UNITS IMPACTED

- 452nd Air Mobility Wing, March AFB, CA
- 445th Airlift Wing, Wright-Patterson AFB, OH

CONTRACTOR: Raytheon Company, Waltham, MA

PROGRAM ELEMENT CODE: 54214F

IN AF POM: No

C–17 Active Noise Reduction (ANR) Headsets

BACKGROUND

- Reduced noise allows for improved communications and mission effectiveness
- Currently, the only noise reduction system approved as Safe-to-Fly for the C-17A is the Attenuating Custom Communications Earphone System (ACCES) which requires a molded piece be inserted into the ear
- Since 2004 Active Noise Reduction headsets have received approval for use on many different military platforms to include the C-5 and the C-130

REQUIREMENT

- Procure a suitable ANR headset for the C-17 which will ultimately reduce fatigue associated with hazardous noise levels and increase hearing protection for AFR aircrews
- Occupational Health and Safety Administration Title 29 of the Code of Federal Regulations (CFR), Part 1910.95

UNIT IMPACTED

- 452nd Air Mobility Wing, March AFB, CA
- 445th Airlift Wing, Wright-Patterson AFB, OH

CONTRACTOR: Bose Corporation, Framingham, MA

PROGRAM ELEMENT CODE: 54214

IN AF POM: No

C-40 Special Airlift

Provides CONUS, INTER-theater, and INTRA-theater Operations Support Airlift and VIP Special Airlift Mission (OSA/VIP SAM) for U.S. national defense.

GLOBAL REACH

The C-40C provides worldwide air transportation for the Executive Branch, Congressional Members/ Delegations (CODEL), DoD officials, high ranking U.S. and foreign dignitaries, as well as other numerous operations support needs. The 932 AW, at Scott AFB, IL, is dedicated to providing the highest level of service in support OSA travel teams, critical mission support and VIP's supporting war, peacetime, homeland defense and contingency requirements.

Boeing Corp is the prime contractor supporting the C-40C. A Modernization effort is underway to add internet conductivity by adding the wireless Airborne High Speed Data System. Future requirements include; addition of a fuel inerting system to meet FAA compliance; Selective Availability Anti-spoofing module for navigation security and crew rest kits to increase effective aircraft range.

EXECUTIVE SUMMARY

- C-40C Fuel Inerting System - Modify C-40C with an inert gas generating system that will mitigate aircraft fuel tank vapor issue that could result explosion
- C-40C Selective Availability Anti-spoofing Module (SAASM)- Upgrade GPS receiver with SAASM capability to alleviate system vulnerabilities from deliberate attempts to mimic a legitimate GPS signal with erroneous position and time information
- C-40C Crew Rest Kit- Rest Kits request will match the existing Crew Rest kits currently installed on aircraft 05-0730. Crew Rest Kits allow the crew to extend the duty day by up to four hours, thereby cutting down enroute crew rest stops by increasing effective range 1500-2000NMs

C-40C Fuel Tank Inerting/Fuel Tank Fire Suppression

BACKGROUND

- Fuel tank explosions have been an aviation safety threat for many years
- 18 aircraft have been damaged/destroyed as a result of fuel tank explosions
- NTSB investigation of three recent incidents found several similarities
    - Outside air temp over 80F
    - Explosion on ground or soon after takeoff
    - Explosions involved empty center wing fuel tanks that contained flammable
- FAA issued SFAR 88; 55 FR 23086, May 2001 requiring detection/correction of potential ignition sources in the fuel tank area
- FAA established performance-based set of requirements that set acceptable flammability exposure values in tanks most prone to explosion or required installation of and ignition mitigation means in an affected tank
    - Implementation deadline are 21 September 2015 for 50 percent of fleet and 19 September 2018 for 100 percent of fleet

REQUIREMENT

- C-40B/C Fuel Tank Inerting AF Form 1067, AMC 11-114

UNITS IMPACTED

- 932nd Airlift Wing, Scott AFB, IL

CONTRACTOR: Boeing Commercial Airplane Company, Seattle, WA

PROGRAM ELEMENT CODE: 54324F

IN AF POM: Yes

C-40C GPS/SAASM Compliance

BACKGROUND

- Selective Availability Anti-spoofing Module (SAASM) is used by Global Positioning System (GPS) receivers to allow decryption of precision GPS coordinates
- GPS spoofing involves the intentional sending of a fake GPS signal by a simulated satellite mimicking a legitimate GPS satellite
- SAASM is required to comply with DoD Global Positioning System Security Policy (OSD) (NII) Policy 4 April 2006
- Platforms used in Combat Support, must operate receivers in keyed precision positioning service

REQUIREMENT

- Draft C-40B/C GPS/SAASM retrofit, AMC TBD

UNITS IMPACTED

- 932nd Airlift Wing, Scott AFB, IL

CONTRACTOR

- Boeing Commercial Airplane Company, Seattle, WA

PROGRAM ELEMENT CODE: 54324F

IN AF POM: No

C-40 Crew Rest Seats

BACKGROUND

- The unit's operating the C-40C provide worldwide air transportation to Congressional Members and Delegations (CODEL), the Executive Branch, Department of Defense (DoD) officials and high ranking U.S. and foreign dignitaries
- Per 932 OG FCIF #2011-47, the 932 AW established augmented Flight Duty Period (FDP) is limited to 20+00 hours
- Crew Rest Kits allow the crew to extend the duty day by up to four hours, thereby cutting down enroute crew rest stops by increasing effective range 1500-2000NMs
- Rest Kits request will match the existing Crew Rest kits currently installed on aircraft 05-0730. This modification was a purchased option for the aircraft when the aircraft were originally acquired

REQUIREMENT

- Draft AFRC/AMC AF Form 1067

UNITS IMPACTED

- 932nd Airlift Wing, Scott AFB, IL

CONTRACTOR

- Boeing Commercial Airplane Company, Seattle, WA

PROGRAM ELEMENT CODE: 54324F

IN AF POM: No


AFRC
MAXWELL
50037

C-130 Hercules

Provides INTER-theater and INTRA-theater airlift in support of U.S. national defense

GLOBAL REACH

The C-130H conducts day or night operations to affect the recovery of downed aircrews or other iso- lated personnel from hostile or denied environments during war. They may provide air refueling of recov- ery force helicopters and tactical delivery via airdrop or airland of rescue personnel watercraft, all-terrain vehicles, and/or direct assistance in advance of recov- ery vehicles. Current AFR C-130H inventory is based at Patrick AFB, FL.

As the aircraft age, the Air Force must modernize to improve war-fighting capability and the safety of its mobility fleet. The Air Force Reserve is actively pursuing a secure/beyond line-of-sight communication capability, real-time battlespace information in the cockpit to include data link/common operating picture ability, electronic propeller control systems and in-flight propeller balancing systems, and an improved propeller. The AFR C-130H fleet is also modernizing with a state-of-the-art integrated electronic warfare suite.

EXECUTIVE SUMMARY

- C-130H Modular Aerial Spray System (MASS) – Replaces the current MASS, which is becoming increasingly more difficult to support, with a new system. This is required to meet current and future aerial spray applications directed by the Center for Disease Control, Homeland Defense, and DoD requirements
- C-130H Electronic Prop Control System (EPCS) – Replaces existing synchrophasers with new digital prop control system, providing better engine responsiveness
- C-130H In-Flight Propeller Balancing System (IPBS) – Aircraft propellers experience two primary sources of imbalances; mass and aerodynamic. An In-Flight Propeller Balancing System (IPBS) would automatically balance propellers to 0.05 ips at all power settings and conditions
- C-130H Improved Propeller (NP2000) – New NP2000 eight (8) bladed propeller will increase thrust for heavy weight and short field operations. Additionally, the new propellers will increase engine efficiency under normal flight conditions
- C-130H Secure Line of Sight/Beyond Line of Sight (SLOS/BLOS) Communications Capability – Upgrades AFRC C-130Hs with ARC-210 and Situational Awareness Datalink (SADL) Radios to provide aircrews with a Real Time Information in the Cockpit (RTIC) System that meets current mission operational requirements for a comprehensive, networked communications capability throughout all theaters of operation, and an increased situational awareness capability
- C-130H NVIS Cockpit Lighting- Permanently installs NVIS lighting solution. Allows aircrew's to operate more effectively while on night vision goggles in environments of increasing levels of threat complexity and lethality

- C-130 Advanced Radar Warning Receiver (RWR) - Provides advanced, digital RWR capable of ensuring adequate defensive situational awareness against present and future threats
- C-130H CNS-ATM- This program is designed to bring the C-130H configuration into compliance with selected Air Force Navigation and Safety (Nav/Safety) Master Plan, Required Navigation Performance (RNP) requirements, and other applicable CNS/ATM requirements

For program impact and data specifics contact Air Force Directorate of Programs and Requirements at (703) 695-9056.

C-130H Modular Aerial Spray System (MASS)

BACKGROUND

- The 910th Airlift Wing is tasked by DoD Directive 4150.7, Para 5.4 to maintain a large area fixed wing aerial spray capability to control disease vectors in continental U.S. disaster areas, e.g., Hurricane Katrina, combat areas and DoD installations
- The current MASS is over 20 years old, no longer in production and becoming increasingly more difficult and expensive to maintain. It is expected to reach the end of the life cycle within the next four years
- Supportability issues are causing system failures while performing operational missions, causing lost sorties
- The ability of these aircraft to cover large areas with the proper pest control cannot be duplicated in the civilian sector and is not available through any other DoD units
- This requirement will replace the current MASS with a newly designed system. This is required to meet current and future aerial spray applications directed by the Center for Disease Control, Homeland Defense, and DoD requirements

REQUIREMENT

- Procurement and installation of a new Modular Aerial Spray System (MASS) for six (6) C-130H aircraft

UNITS IMPACTED

- 910th Airlift Wing, Youngstown Air Reserve Station (ARS), OH

CONTRACTOR: TBD

PROGRAM ELEMENT CODE: 54343F

IN AF POM: No

C-130H Electronic Propeller Control System (EPCS)

BACKGROUND

- The EPCS provides increased reliability and operational responsiveness of propeller control which is frequent source of failure. The legacy system is based on 1950's technology using springs and fly-weights and is the cause of numerous types of propeller malfunctions. This results in increased maintenance and operational costs
- A new EPCS has been developed for use on C-130 aircraft which would reduce maintenance down time, reduce sustainment cost and increase aircraft availability. Test aircraft with the EPCS have observed markedly greater reliability and operator satisfaction with prop responsiveness
- The mishap investigation report following the crash of a C-130H2 in Baghdad directly contributed the compressor stalls of three engines to the rapid throttle movements by the pilot. The current hydro-mechanical valve system has limited capability to anticipate propeller control based on the rate of throttle movement. EPCS has a much greater capability to handle rapid throttle inputs thus preventing potential compressor stalls
- EPCS replaces the syncrophaser system which is another possible cause of multiple engine rollbacks. The electronic control greatly reduces propeller vibration which has a direct impact on the lifespan of the aircraft, aircraft equipment, and aircrew fatigue

REQUIREMENT

- Procurement and installation of the Electronic Propeller Control System (EPCS) on 48 C-130H aircraft

UNITS IMPACTED

- 94th Airlift Wing, Dobbins ARB, GA
- 302nd Airlift Wing, Peterson AFB, CO
- 910th Airlift Wing, Youngstown ARS, OH
- 914th Airlift Wing, Niagara Falls International Air Port (IAP), NY
- Det 1 22nd AF, Little Rock AFB, AR
- 934th Airlift Wing, Minn-St. Paul IAP, MN
- 908th Airlift Wing, Maxwell AFB, AL
- 911th Airlift Wing, Pittsburg IAP, PA

CONTRACTOR: Hamilton-Sunstrand, Windsor Lock, CT

PROGRAM ELEMENT CODE: 54343F

IN AF POM: No

C-130H In-Flight Propeller Balancing System (IPBS)

BACKGROUND

- Aircraft propellers experience two primary sources of imbalances: mass and aerodynamic
- Aerodynamic imbalances are due to the differences in lift and drag forces acting on each propeller blade. On the C-130 propeller, these aerodynamic imbalances are significant because the aluminum blades are hand shaped during original manufacture and experience varying degrees of wear in service
- An In-Flight Propeller Balancing System (IPBS) would automatically balance propellers to 0.05 ips at all power settings and conditions
- The aircraft propeller controls, engine components (reduction gear box, power section, accessories, and the Quick Engine Change (QEC) structure), and the QEC to wing support structure have long been at the top of the list as sustainment and cost of ownership drivers
- Although difficult to quantify, balancing the propellers would result in less vibration to the aircraft engines, aircraft and onboard avionics. The US Navy conducted a test demonstrating a 27% increase in reliability of avionics installed forward of the FS 245 rack

REQUIREMENT

- Procurement and installation of the In-Flight Propeller Balancing System (IPBS) on AFR C-130H aircraft

UNITS IMPACTED

- 94th Airlift Wing, Dobbins ARB, GA
- 302nd Airlift Wing, Peterson AFB, CO
- 910th Airlift Wing, Youngstown ARS, OH
- 914th Airlift Wing, Niagara Falls IAP, NY
- Det 1 22nd AF, Little Rock AFB, AR
- 934th Airlift Wing, Minn-St. Paul IAP, MN
- 908th Airlift Wing, Maxwell AFB, AL
- 911th Airlift Wing, Pittsburg IAP, PA

CONTRACTOR: Lord Corp., Arlington, MA

PROGRAM ELEMENT CODE: 54343F

IN AF POM: No

C-130 Improved Propeller (NP2000)

BACKGROUND

- New NP2000 eight (8) bladed propellers will increase thrust for heavy weight and short field operations. Additionally, the new propellers will increase engine efficiency under normal flight conditions
- The design of the new NP2000 Propeller allows individual blades to be removed for maintenance rather than having to remove the entire hub assembly as is required with current propellers. This will result in decreased sustainment cost and increased mission capable rates
- The new NP2000 eight (8) bladed propellers have proven to reduce engine vibration resulting in less fatigue on both the aircraft and aircrew

REQUIREMENT

- Replace legacy 54h60 four (4) bladed propeller with new NP2000 eight (8) bladed propellers for increased thrust, decreased sustainment costs, and decreased aircraft and crew fatigue

UNITS IMPACTED

- 94th Airlift Wing, Dobbins ARB, GA
- 302nd Airlift Wing, Peterson AFB, CO
- 910th Airlift Wing, Youngstown ARS, OH
- 914th Airlift Wing, Niagara Falls IAP, NY
- Det 1 22nd AF, Little Rock AFB, AR
- 934th Airlift Wing, Minn-St. Paul IAP, MN
- 908th Airlift Wing, Maxwell AFB, AL
- 911th Airlift Wing, Pittsburg IAP, PA

CONTRACTOR: Hamilton Sundstrand, Windsor Locks, CT

PROGRAM ELEMENT CODE: 54343F

IN AF POM: No

C-130H Secure Line Of Sight (SLOS)/Beyond Line Of Sight (BLOS) with Datalink Real Time Information In The Cockpit (RTIC)

BACKGROUND

- C-130 aircrews lack equipment to gain timely battlespace knowledge of enemy threats, friendly positions, and other pertinent wartime information
- Overseas Contingency Operations require comprehensive, networked command and control (C2) throughout all theaters of operation
- A secure line of sight (SLOS)/beyond line of sight (BLOS) with data link provides the C2 link and maximizes C-130 aircrew situational awareness and provides real time information to C-130 aircrews so they can participate in present day network-centric battlespace
- Real-time-in-the-cockpit data will enhance mission success and increase survivability through updated threat and weather information and battlespace situational awareness

REQUIREMENT

- Upgrade AFR C-130H aircraft with an interoperable combat communications capability to exchange real time information collaboratively with all battlespace users

UNITS IMPACTED

- 94th Airlift Wing, Dobbins ARB, GA
- 302nd Airlift Wing, Peterson AFB, CO
- 910th Airlift Wing, Youngstown ARS, OH
- 914th Airlift Wing, Niagara Falls IAP, NY
- Det 1 22nd AF, Little Rock AFB, AR
- 934th Airlift Wing, Minn-St. Paul IAP, MN
- 908th Airlift Wing, Maxwell AFB, AL
- 911th Airlift Wing, Pittsburg IAP, PA

CONTRACTOR:

Northrop Grumman Corp., San Diego, CA; Rockwell Collins Corp, Cedar Rapids, IA; Raytheon Corp., Fullerton, CA; Esterline Corp., Bellevue, WA

PROGRAM ELEMENT CODE: 54343F

IN AF POM: No

C-130 Digital Radar Warning Receiver (RWR)

BACKGROUND

- Not all AFRC C-130 are equipped with a radar warning system
- AFRC C-130s that have RWR's are equipped with the legacy ALR-69
- Legacy ALR-69 provides threat radar warning indications to the aircrews; however, it has significant performance shortfalls, reliability and maintainability issues, and is not capable of ensuring adequate defensive situational awareness against some present and most future radar systems in identifying and defeating radar missile threats
- AFRC C–130 aircrews need an enhanced capability to precisely locate and identify modern day radar threats in order to maximize survivability and successfully accomplish their combat operations
- Modernized RWR are now available that provide precise threat information which assist aircrews in identifying and defeating radar missile threats

REQUIREMENT

- TBD

UNITS IMPACTED

- 94th Airlift Wing, Dobbins ARB, GA
- 302nd Airlift Wing, Peterson AFB, CO
- 910th Airlift Wing, Youngstown ARS, OH
- 914th Airlift Wing, Niagara Falls IAP, NY
- Det 1 22nd AF, Little Rock AFB, AR
- 934th Airlift Wing, Minn-St. Paul IAP, MN
- 908th Airlift Wing, Maxwell AFB, AL
- 911th Airlift Wing, Pittsburg IAP, PA

CONTRACTOR: Raytheon Company, Waltham, MA

PROGRAM ELEMENT CODE: 54343F

IN AF POM: No

C-130H CNS/ATM 2020 Capability

BACKGROUND

- International Civil Aviation Organization (ICAO), Federal Aviation Administration (FAA), and other civil aviation authorities (CAA) are implementing new air traffic management architectures to increase system capacity and flight efficiency while continuing to meet flight safety standards
- Significant aircraft modifications are required for the C-130H aircraft to operate in this new environment. The key elements of the new Air Traffic Management (ATM) environment are based on required communications, navigation, and surveillance (CNS) performance in support of separation standards
- This program is designed to bring the C-130H configuration into compliance with selected Air Force Navigation and Safety (Nav/Safety) Master Plan, Required Navigation Performance (RNP) requirements, and other applicable CNS/ATM requirements
- The key element of the new CNS/ATM systems are the expectation that aircraft under positive control will maintain and report precise aircraft positioning information with a defined and certified standard. In the CNS/ATM environment, aircraft must maintain precise position (navigation), and send aircraft position and intent to ground Air Traffic Control (ATC) facilities and other aircraft (surveillance) via voice and data link

REQUIREMENT

- Draft Capability Development Document for C-130H Viability and Airspace Access Program and the implementation by the International Civil Aviation Organization (ICAO), Federal Aviation Administration (FAA), and other civil aviation authorities (CAA) of new airspace access mandates

UNITS IMPACTED

- 94th Airlift Wing, Dobbins ARB, GA
- 302nd Airlift Wing, Peterson AFB, CO
- 910th Airlift Wing, Youngstown ARS, OH
- 914th Airlift Wing, Niagara Falls IAP, NY
- Det 1 22nd AF, Little Rock AFB, AR
- 934th Airlift Wing, Minn-St. Paul IAP, MN
- 908th Airlift Wing, Maxwell AFB, AL
- 911th Airlift Wing, Pittsburg IAP, PA

CONTRACTOR: TBD

PROGRAM ELEMENT CODE: 54343F

IN AF POM: Yes

For program impact and data specifics contact Air Force Directorate of Programs and Requirements at (703) 695-9056.

C-130H Improved Night Vision (NVIS) Cockpit Lighting

BACKGROUND

- Currently AFRC C-130H2/2.5 aircraft have a night vision wiring harness that was intended to be a temporary fix until the Avionics Modernization Program (AMP) is installed. With the future of the AMP program in jeopardy a permanent NVIS solution needs to be installed
- Due to increased NVG requirements and operational necessities the wiring harness solution is no longer valid and aircrews require a better and permanent solution
- C-130s are being tasked to operate in an environment of increasing levels of threat complexity and lethality. Failure to modify the C-130 aircraft with NVG compatible aircraft lighting renders combat airlift incapable of meeting user demands to operate at night in a tactical environment

REQUIREMENT

- Requirement is mission essential on Air Mobility Command C-130 Combat Delivery Requirements Priority list and Mission Critical on the AFRC Prioritized Integrated Requirements List

UNITS IMPACTED

- 94th Airlift Wing, Dobbins ARB, GA
- 302nd Airlift Wing, Peterson AFB, CO
- 910th Airlift Wing, Youngstown ARS, OH
- 914th Airlift Wing, Niagara Falls IAP, NY
- Det 1 22nd AF, Little Rock AFB, AR
- 934th Airlift Wing, Minn-St. Paul IAP, MN
- 908th Airlift Wing, Maxwell AFB, AL
- 911th Airlift Wing, Pittsburg IAP, PA

CONTRACTOR: TBD

PROGRAM ELEMENT CODE: 54343F

IN AF POM: No

F-16 Fighting Falcon

Provides 24/7 Close Air Support, Precision Strike, Forward Air Control, Combat Search and Rescue, and Defensive Counter Air

GLOBAL POWER

The F-16 Block 30 Fighting Falcon provides air-to- air and air-to-ground combat capabilities in a sin- gle-engine multi-role tactical fighter aircraft. The aircraft can perform day and night precision strike, close air support and air-to-air beyond-visual-range interception missions. F-16s can locate targets in all weather conditions and detect low-f lying aircraft in radar ground clutter. The Air Force Reserve flies F-16s at the 301st Fighter Wing, NAS JRB Fort Worth, TX and the 482nd Fighter Wing, Homestead ARB, FL. The Air Force Reserve has teamed with Air Combat Command to provide over 600 Reservists to man three F-16 Associate units: 944th Fighter Wing, Luke AFB, AZ.; 419th Fighter Wing, Hill AFB, UT; and a detachment of the 482nd Operations Group at Shaw AFB, SC. Contractors include Lockheed Martin (airframe), General Electric (propulsion), and Northrop Grumman (radar).

AFRC F-16s are receiving an avionic update to include a new smart high resolution display, helmet mounted targeting and advance identification friend foe equipment. Communication requirements include an ARC-210 radio to allow simultaneous secure line-of-sight/beyond line-of-sight communications and a 3D Audio system upgrade which will significantly improve situational awareness, threat reaction, and communication intelligibility. To improve survivability from radar guided missiles, an update to the analog ALR-69 is required. The all-digital AN/ALR69A radar warning receiver is designed to replace the current analog model. At the top of the F-16 critical requirements list is radar enhancement. The current APG-68 radar is becoming unreliable and averages $136K a year for each aircraft in repair costs. A new radar processor will improve reliability and performance with minimal integration, installment and purchasing costs. An updated processor is estimated to save over $100K a year for radar repair on each F-16. These are critical needs to maintain survivability and combat effectiveness in current and future threat environments.

EXECUTIVE SUMMARY

- F-16 CDU - Replace F-16 aging mechanical/analog fight instruments on the center pedestal with a digital Center Display Unit (CDU) display
- F-16 HMIT - Provide Helmet Mounted Integrated Targeting (HMIT) capability to AFRC F-16
- F-16 AIFF - Autonomous Identification Friend Foe (AIFF) gives AFRC F-16s an autonomous interrogation capability. Ability to interrogate mode 5/S signals is critical to conducting air defense missions
- F-16/A-10 3D Audio – 3D Audio provides a spatial acoustical environment in which threat warnings and communications are easy to distinguish. 3D Audio increases situational awareness, significantly improves threat reaction time and communication intelligibility
- F-16 ALR69A Missile Warning System replaces the current analog system with an all-digital radar warning receiver, protects aircraft from radar guided surface-to-air or air-to-air missile attack

- F-16 PIDS+ - Integrates an active IR Missile Warning System and self-protection dispensers into the PIDSU pylon
- F-16 Anti-Jam GPS replaces the F-16's GPS antenna with new antennas that are resistant to ground based GPS jamming thus preserving highly accurate navigation and precision weapon targeting
- ATP Spiral Upgrade - LITENING advanced targeting pod spiral technology upgrades. These are upgrades to existing AFRC pods to keep them current and relevant

A-10C/F-16C Center Display Unit (CDU)

BACKGROUND

- AFRC F-16C and A-10C analog cockpit instruments are becoming increasingly difficult to maintain and are affected by diminishing material and manufacturing sources
- The CDU will replace the analog flight instruments with digital instrument displays
- The displays have the processing capacity to manipulate data external to the aircraft operational flight program
- The processors in the displays will provide pilots the ability to securely transfer still images, such as a targeting pod scenes, joint tactical air controller taskings, and target area imagery. This capability is critical to rapid coordination with ground units during close air support missions and with command and control assets during time sensitive and emerging target operations

REQUIREMENT

- Install smart multifunction color displays into the F-16 and A-10 to replace mechanical/analog fight and engine monitoring instruments on the center console
- Critical priority number 14 out of 41 from 10th Air Force 2013 CPC

UNITS IMPACTED

- 924th Fighter Group, Davis Monthan AFB, AZ
- 301st Fighter Wing, NAS Fort Worth JRB, TX
- 482nd Fighter Wing, Homestead ARB, FL
- 442nd Fighter Wing, Whiteman AFB, MO

CONTRACTOR: Raytheon Corp, Indianapolis In., for the F-16 solution; Contractor not yet selected for the A-10 solution

PROGRAM ELEMENT CODE: A10: 52713F F16: 52716F

IN AF POM: No

A-10C/F-16C Helmet Mounted Integrated Targeting (HMIT)

BACKGROUND

- HMIT is a Combatant Commander Urgent operational need directing a common helmet mounted cueing system on Block 30 F-16C and A-10C
- Number one critical priority out of 41 from the 10th AF 2013 Combat Planning Council
- HMIT supports the Global Power critical capability and the air superiority and global precision attack core functions of the Air Force
- HMIT provides flight and weapons information to a display in the pilot's helmet increasing the effectiveness of all A-10 and F-16 missions
- A-10 and F-16 SPOs teamed to developed common interface and specifications

REQUIREMENT

- Provide Helmet Mounted Integrated Targeting (HMIT) capability to AFRC A-10C/F-16C
- Replace HMIT magnetic tracking system with new optical tracking system

UNITS IMPACTED

- 924th Fighter Group, Davis Monthan AFB, AZ
- 301st Fighter Wing, Carswell JRB, TX
- 482nd Fighter Wing, Homestead ARB, FL
- 442nd Fighter Wing, Whiteman AFB, MO

CONTRACTOR: Raytheon Technical Services, Indianapolis IN; Thales Visionix, Inc, Aurora, IL; GENTEX Corp, Carbondale, PA

PROGRAM ELEMENT CODE: A10: 52713F F16: 52716F

IN AF POM: No

F-16 Advanced Identification Friend Foe (AIFF)

BACKGROUND

- Provides ability to autonomously interrogate advanced IFF systems (mode 5/S)
- Upgrade to mode 5/S is mandated by the Air Force. AIFF gives AFRC F-16s an autonomous interrogation capability. Ability to interrogate mode 5/S signals is critical to conducting air defense missions. Both the 482nd Fighter Wing and 301st Fighter Wing are currently positioned as Tier 2 Home Land Defense support assets for Operation Noble Eagle (ONE). When the National threat level is raised from "Elevated" to "High" both units are required to stand up alert facilities in support of ONE

REQUIREMENT

- Upgrade 16 AFRC F-16 block 30 aircraft with AIFF
- Due to the uncertainty of when the National Threat Level will rise, modifying 8 aircraft per unit with AIFF will provide enough capability to meet Tier 2 ONE Alert operations without affecting additional unit taskings

UNITS IMPACTED

- 301st Fighter Wing, NAS Fort Worth JRB, TX
- 482nd Fighter Wing, Homestead ARB, FL

CONTRACTOR: BAE Advanced Systems Unit, Greenlawn, NY

PROGRAM ELEMENT CODE: F16: 52716F

IN AF POM: No

A-10/F-16 3D Audio

BACKGROUND

- Audio information comes to the A-10/F-16 pilots from four radios, the threat warning receivers and the aircraft itself. 3D audio provides a spatial acoustical environment in which threat warnings and communications are easy to distinguish. 3D audio increases situational awareness, significantly improves threat reaction time and communication intelligibility
- 3D audio integrates a digital intercom system, active and electronic noise reduction, three-dimensional spatial separation of multiple radio channels and three-dimensional auditory threat cueing
- 3D audio system is in use on F-16s in Europe
- SAF/IAPQ funded 3D audio Foreign Comparative Test
- Test starts on A-10 in October 2013
- Critical requirement number 19 out of 41 from the 2013 10th Air Force Combat Planning Council

REQUIREMENT

- Integrate 3D audio into AFRC A-10 and F-16 aircraft

UNITS IMPACTED

- 924 Fighter Group, Davis Monthan AFB, AZ
- 301st Fighter Wing, NAS Fort Worth JRB, TX
- 482nd Fighter Wing, Homestead ARB, FL
- 442nd Fighter Wing, Whiteman AFB, MO

CONTRACTOR: TERMA North America, Warner Robins, Ga

PROGRAM ELEMENT CODE: F16: 52716F A-10: 52710F/52717F

IN AF POM: No

F-16 ALR69A Upgrade

BACKGROUND

- ALR69A Missile Warning System is an all-digital radar warning receiver
- Protects aircraft from radar guided surface-to-air or air-to-air missile attack
- AN/ALR69 replaces the current analog model of the ALR-69
- System consists of sensor units oriented to provide 360-degree protection; a processor that analyzes the received signals, warns the pilot, and automatically dispenses defensive countermeasures
- The ALR69A will reduce pilot workload, provide warning of unobserved missile threats and automatically cue onboard dispensers to eject countermeasures to defeat the incoming missile. The result is improved detection range and accurate, unambiguous identification of friend versus foe

REQUIREMENT

- Upgrade all 53 AFRC F-16 aircraft with the AN/ALR69A Missile Warning System
- Critical requirement number 32 out of 41 on 10th Air Force 2013 Prioritized Requirements

UNITS IMPACTED

- 301st Fighter Wing, NAS Fort Worth JRB, TX
- 482nd Fighter Wing, Homestead ARB, FL

CONTRACTORS: Raytheon Corp, Goleta California.

PROGRAM ELEMENT CODE: F16: 52716F

IN AF POM: No

Missile Warning System (PIDS +) FLARE-UP and IR Sensors

BACKGROUND

- Chaff, decoys and flares provide last line of defense from radar and IR guided missiles
- F-16s do not have an active IR missile warning system
- This modification integrates an active IR Missile Warning System into the PIDSU pylon
- Each modified pylon doubles the number of self-protection chaff and flare cartridges that can be carried and will greatly increase survivability
- No hardware/ software changes required. Designed as a form fit replacement
- Essential requirement number 20 out of 41 from the 10th Air Force Combat Planning Council

REQUIREMENT

- Modify 53 pylons with IR sensors, chaff/flare dispensers and associated electronic control units. Purchase additional PIDS+ as required

UNITS IMPACTED

- 301st Fighter Wing, NAS Fort Worth JRB, TX
- 482nd Fighter Wing, Homestead ARB, FL

CONTRACTOR: Manufacturer: TERMA International; Arlington VA; Warner Robins GA. (Pylon); Contractor not yet determined for IR Sensors and processors

PROGRAM ELEMENT CODE: F16: 52716F

IN AF POM: No

F-16 Anti-Jam GPS

BACKGROUND

- Current early generation GPS antenna on the F-16 has limited anti-jam capability
- Adversary GPS jamming tactics and capabilities have advanced to the point where the F-16 may be vulnerable to GPS jamming
- A new sophisticated antenna, antenna switching unit and GPS processor is required to overcome adversary GPS jamming capability
- AFRL is conducting a side by side test of the Anti-Jam capability with a CRPA antenna and the GEM6/ DIGAR verses GSTAR/Trimble hardware. Report due in April 2014

REQUIREMENT

- Critical requirement number 22 out of 41on 10th Air Force 2013 Prioritized Requirements
- Increase the F-16 resistance to GPS jamming
- Install new form-fit anti-jam antenna and 24 channel SAASM

UNITS IMPACTED

- 301st Fighter Wing, NAS Fort Worth JRB, TX
- 482nd Fighter Wing, Homestead ARB, FL

CONTRACTOR: Lockheed Martin, Owego, NY; ITT Exelis Geospatial Systems, Rochester, NY; Rockwell Collins, Cedar Rapids, IA

PROGRAM ELEMENT CODE: F16: 52716F

IN AF POM: No

LITENING A-10/F-16/B-52 ATP Procurement and Spiral Upgrades

BACKGROUND

- LITENING advanced targeting pod (ATP) spiral technology upgrades. These are upgrades to existing AFR pods to keep them current and relevant
- Currently fielded pods employ LITENING Block 1 (Blk 1) and Generation Four (G4) spiral upgrades with Forward Looking Infrared (FLIR), electro-optical television/Charged Coupled Devices (CCD), and Laser Spot Search and Track (LSS/LST) to offer exceptional standoff capability and the ability to target J-Series weapons
- The next ATP modernization spiral for LITENING is the Sensor Enhanced (SE) modernization. The imagery will allow for greater stand-off ranges and increase target identification as well as employing a Plug-N-Play (PnP) IIITM digital two-way, data link LRU inside the pod which will enhance working with ground parties and troops in contact

REQUIREMENT/SOURCE OF NEED

- Critical requirement number 2 of 85 on the 10th Air Force 2013 prioritized requirements list
- Procure Sensor Enhanced spiral upgrade kits for all AFR ATPs

UNITS IMPACTED

- 357th Fighter Sq. Davis Monthan AFB, AZ
- 307th Bomb Wing, Barksdale AFB, LA
- 482nd Fighter Wing, Homestead ARB, FL
- 442nd Fighter Wing, Whiteman AFB, MO
- 924 Fighter Group , Davis Monthan AFB, AZ
- 301st Fighter Wing, NAS Fort Worth JRB, TX

CONTRACTOR: Northrop Grumman Corp, Rolling Meadows, IL

PROGRAM ELEMENT CODE: A10: 52720F; F-16: 52716F; B-52: 51720F

IN AF POM: No

Personnel Recovery

Provides worldwide combat search and rescue in support of U.S. national defense.

Personnel Recovery is made up of three weapons systems working in concert to prosecute an Air Force core value mission. Due to equipment age and low numbers this mission falls into the Low Density, High Demand (LDHD) category. Recapitalization and augmentation for airframes is overdue, adversely affecting systems availability.

The HH-60G Pave Hawk mission is to conduct day or night operations into hostile environments to recover downed aircrew or isolated coalition personnel. The AFR operates HH-60G aircraft at the 920th Rescue Wing at Davis- Monthan AFB, AZ, and Patrick AFB, FL. AFR HH-60G Pave Hawk search and rescue helicopters have had three to four aircraft continually deployed to Afghanistan from May 2011 to June 2012. During this time, volunteer and mobilized AFR crews and maintainers launched over 2,400 sorties logging 1,500 hours. During this period, they were credited with over 800 saves and 860 assists.

The HC-130N/P conducts day or night operations to affect the recovery of downed aircrews or other isolated personnel from hostile or denied environments during war. They may provide air refueling of recovery force helicopters and tactical delivery via airdrop or airland of rescue personnel watercraft, all-terrain vehicles, and/or direct assistance in advance of recovery vehicles. Current AFR HC-130N/P inventory is based at the 920th Rescue Wing, Patrick AFB, FL. The AFR HC-130 fleet is modernizing with a state-of- the-art integrated electronic warfare suite as well as updated propeller systems.

Guardian Angel (GA) is an Air Force weapon system consisting of Combat Rescue Officers (CRO); Pararescuemen (PJ); and Survival, Evasion, Resistance, and Escape Specialists (SERE) operating together to pro- vide a dedicated capability to prepare, report, locate, support, recover, and reintegrate isolated personnel in support of Combat Search and Rescue (CSAR) and Personnel Recovery Programs. Air Force Reserve GA person- nel and equipment are assigned to the 920th Rescue Wing (RQW), Patrick AFB, FL. Subordinate 920th RQW GA units are located at Davis-Monthan AFB, AZ and Portland IAP, OR.

Personnel Recovery System Summaries

HH-60G Pave Hawk

The Pave Hawk is a highly modified version of the Army Black Hawk helicopter which features an upgraded communications and navigation suite. It includes integrated inertial navigation/global positioning/Doppler navigation systems, satellite and secure voice communications. All HH-60Gs have an automatic flight control system, night vision goggle compatible lighting, and forward looking infrared (FLIR) system that allow all Reserve airmen to effectively operate low to the ground at night. Additionally, the Pave Hawk has a color weather radar system and engine/rotor blade anti-icing system that gives the aircraft an adverse weather capability crucial to effect rescue operations.

HH-60G Rescue equipment includes a hoist capable of lifting a 600 lbs. (270 kg) load from a hover height of 200 feet, and a personnel locating system that is compatible with the PRC-112 and CSEL survival radio. The locating system provides range and bearing information to a survivor's location. The Air Force Reserve operates HH-60G aircraft at the 920th Rescue Wing at Davis-Monthan AFB, AZ, and Patrick AFB, FL.

EXECUTIVE SUMMARY

- HH-60G Hostile Fire Indication System (HFI) – helicopters require a Hostile Fire Indication System to counter hostile fire events to include Rocket Propelled Grenades (RPGs), Anti-Aircraft Artillery (AAA), heavy machine guns, Anti-Tank Guided Missiles (ATGM), and even small arms. Currently, helicopters and aircrews are completely unaware they were the targets of hostile fire until post-flight inspections reveal evidence of damage by hostile fire
- HH-60Gs flown by AFRC are amongst the few helicopters in the Personnel Recovery community without rotor brakes. Rotor brakes are required for shipboard operations
- HH-60G Communication Suite Upgrade with Three-Dimensional Audio - Secure multi-spectrum radio ensures military and civil command authorities that Air Force Reserve rescue helicopters will be ready for all relief operations. In addition, the radio increases HH-60G combat search and rescue capability by filling an existing secure radio shortfall. Three dimensional audio is critical to provide tasked saturated aircrews the ability to prioritize and organize numerous simultaneous radio transmissions during all phases of flight
- The addition of day and night, helmet mounted cueing system and display capability in the HH-60G significantly increases aircrew situational awareness and weapons employment capability; enhances terminal area search and rescue operations; and speeds overall internal communication during critical mission phases. A helmet mounted cueing system allows all crewmembers to quickly build Situational Awareness (SA) based on other crewmember's SA without the need for voice communication
- The HH-60G fleet currently employs a version of the AN/APR-39 Radar Warning Receiver (RWR) that has become vastly outdated versus today's complex Integrated Air Defenses. An improved digital version of the APR-39 RWR exists which when integrated with an RF Jammer, will provide greater protection for HH-60G combat rescue aircraft/aircrews performing operations in a radar contested environment

HC-130

EXECUTIVE SUMMARY

As the aircraft age, the Air Force must modernize to improve war-fighting capability and the safety of its mobility fleet. The Air Force Reserve is actively pursuing a secure/beyond line-of-sight communication capability, real-time battlespace information in the cockpit to include data link/common operating picture ability, electronic propeller control systems and in-flight propeller balancing systems, and an improved propeller. The AFR HC-130 fleet is also modernizing with a state-of-the-art integrated electronic warfare suite.

- HC-130 High Performance Propeller (NP2000) – New NP2000 eight (8) bladed propellers will increase thrust for heavy weight and short field operations. Additionally, the new propellers will increase engine efficiency under normal flight conditions
- HC-130 Electronic Prop Control System (EPCS) – Replaces existing synchrophasers with new digital prop control system, providing better engine responsiveness
- HC-130 In-Flight Propeller Balancing System (IPBS) – Aircraft propellers experience two primary sources of imbalances; mass and aerodynamic. An In-Flight Propeller Balancing System (IPBS) would automatically balance propellers to 0.05 ips at all power settings and conditions
- Air Force Reserve Command (AFRC) Personnel Recovery aircraft require a Hostile Fire Indication System for use in HC-130's to counter this increasing threat. Hostile fire events include Rocket Propelled Grenades (RPGs), Anti-Aircraft Artillery (AAA), heavy machine guns, Anti-Tank Guided Missiles (ATGM), and even small arms
- HC-130 Secure Line of Sight/Beyond Line of Sight (SLOS/BLOS) Communications Capability –Upgrades AFRC C-130Hs with ARC-210 and Situational Awareness Datalink (SADL) Radios to provide aircrews with a Real Time Information in the Cockpit (RTIC) System that meets current mission operational requirements for a comprehensive, networked communications capability throughout all theaters of operation, and an increased situational awareness capability

Guardian Angel

EXECUTIVE SUMMARY

AFRC provides 25 percent of the Air Force's critical high-demand Guardian Angel (GA) force. GA forces operate in austere and non-permissive environments, performing Personnel Recovery (PR) operations to include Combat Search and Rescue (CSAR), Casualty Evacuation (CASEVAC), humanitarian and disaster relief, and support NASA and other national rescue missions, including civil search and rescue operations.

Air Force Reserve GA personnel and equipment are assigned to the 920th Rescue Wing (RQW), Patrick AFB, FL. Subordinate 920th RQW GA units are located at Davis-Monthan AFB, AZ; and Portland IAP, OR. Numerous contractors support GA units and located throughout the United States. Guardian Angel capability requires funding to replace and upgrade existing communication and self- defense systems.

HH-60G Hostile Fire Indication System

BACKGROUND

- Air Force Reserve Command (AFRC) Personnel Recovery aircraft require a Hostile Fire Indication System for use in HH-60G's to counter this increasing threat
- Hostile fire events include Rocket Propelled Grenades (RPGs), Anti-Aircraft Artillery (AAA), heavy machine guns, Anti-Tank Guided Missiles (ATGM), and even small arms
- At least fourteen aircraft, including helicopters, have been brought down by hostile fire. Even more alarming, aircrews are often unaware their aircraft were the targets of hostile fire until post-flight inspections reveal evidence of damage by hostile fire

REQUIREMENT

- Provide a Hostile Fire Indication System to each AFRC HH-60G aircraft

UNITS IMPACTED

- 920th Rescue Wing, Patrick AFB, FL
- 943rd Rescue Group, Davis-Monthan AFB, AZ

CONTRACTOR: TBD

PROGRAM ELEMENT CODE: 53122F

IN AF POM: No

HH-60G Rotor Brake

BACKGROUND

- Air Force Reserve Command (AFRC) HH-60G helicopters are amongst the few helicopters in the community which do not possess rotor brakes
- Rotor brakes are required for safe shipboard operations as they limit the time required to spin up/slow down the rotor system on a ship's cramped pitching decks
- Operation UNIFIED PROTECTOR and recent strategic guidance have demonstrated an increased propensity to operate off of floating platforms
- The technology has been tested & fielded on active duty HH-60Gs, thus this is a quick solution and relatively inexpensive mission enabler

REQUIREMENT

- Provide one rotor brake assembly for each AFRC HH-60G helicopter

UNITS IMPACTED

- 920th Rescue Wing, Patrick AFB FL
- 943rd Rescue Group, Davis-Monthan AFB AZ

CONTRACTOR: Sikorsky Military Systems, CT

PROGRAM ELEMENT CODE: 53122F

IN AF POM: No

HH-60G Communication Suite Upgrade

BACKGROUND

- HH-60G Communication Suite Upgrade provides an improved secure multi-spectrum radio, a radio capable of broadcasting and receiving on civil frequencies and a radio capable of supporting the Airborne Network Waveform commonly used by ground warrior personnel
- The HH-60G has severely limited capability to communicate with civil responders, hindering rescue relief operations. A secure multi-spectrum radio will ensure military and civil command authorities can communicate directly with rescue helicopters, and that these helicopters will be ready for any relief operation. The radio increases the HH-60G combat search and rescue capability by filling an existing secure radio shortfall. Also required is a Beyond Line of Sight (BLOS) radio that is capable of performing the Adaptive Networking Wideband Waveform (ANW2) that provides secure IP data to the tactical internet and can upgrade to the Soldier Radio Waveform (SRW). Three-dimensional audio is critical to providing task saturated aircrews the ability to prioritize and organize numerous simultaneous radio transmissions during all phases of flight

REQUIREMENT

- Provide a Communication Suite System Upgrade to each AFRC HH-60G aircraft
- Critical requirement identified at the 2011 Air Reserve Component (ARC) Weapons and Tactics Conference (WEPTAC); lessons learned from Operations ENDURING FREEDOM (OEF) and IRAQI FREEDOM (OIF)

UNITS IMPACTED

- 920th Rescue Wing, Patrick AFB, FL
- 943rd Rescue Group, Davis-Monthan AFB, AZ

CONTRACTOR: Raytheon, Fort Wayne, IN; Raytheon, Indianapolis, IN; Terma, North America, Inc., Arlington, VA; Rockwell Collins, Cedar Rapids, IA ; Cobham, Prescott, AZ

PROGRAM ELEMENT CODE: 53122F

IN AF POM: No

HH-60 Helmet Mounted Cueing System

BACKGROUND

- The addition of day and night, helmet mounted cueing system and display capability in the HH-60G significantly increases aircrew situational awareness and weapons employment capability; enhances terminal area search and rescue operations; and speeds overall internal communication during critical mission phases
- A helmet mounted cueing system allows all crewmembers to quickly build Situational Awareness (SA) based on other crewmember's SA without the need for voice communication.
- A helmet mounted cueing system solution will also enable reduced visibility landings (e.g.-brown out) via heads-up display cues

REQUIREMENT

- Provide Helmet Mounted Cueing System to each AFRC HH-60G aircraft

UNITS IMPACTED

- 920th Rescue Wing, Patrick AFB, FL
- 943rd Rescue Group, Davis-Monthan AFB, AZ

CONTRACTOR: ELBIT Systems, USA; BAE Systems, Kent, UK; Gentex, Aurora, IL; Rafael, Haifa, Israel; Vision Systems International LLC, San Jose, CA; Insight Technology Inc, Manchester, NH; ITT Night Vision, Roanoke, VA; Northrop Grumman, Rolling Meadows, IL; Raytheon, Indianapolis, IN

PROGRAM ELEMENT CODE: 53122F

IN AF POM: No

HH-60G Radar Warning Receiver/RF Jammer

BACKGROUND

- The HH-60G fleet currently employs a version of the AN/APR-39 Radar Warning Receiver (RWR) that has become vastly outdated versus today's complex Integrated Air Defenses
- An improved digital version of the APR-39 RWR exists which when integrated with an RF Jammer, will provide greater protection for HH-60G combat rescue aircraft/aircrews performing operations in a radar contested environment

REQUIREMENT

- Provide a Radar Warning Receiver/ RF Jammer to each AFRC HH-60G aircraft
- Critical requirement identified at the 2012 ARC WEPTAC; lessons learned from Operations ENDURING FREEDOM (OEF) and IRAQI FREEDOM (OIF)

UNITS IMPACTED

- 920th Rescue Wing, Patrick AFB, FL
- GSU, Davis-Monthan AFB, AZ

CONTRACTOR: Northrup Grumman, Rolling Meadows, IL; Cassidean; BAE Systems, Terma North America, Inc., Arlington, VA; Gentex, Aurora, IL; Raytheon Company

PROGRAM ELEMENT CODE: 53122F

IN AF POM: No

HC-130 High Performance Propeller System (HPPS)

BACKGROUND

- New NP2000 eight (8) bladed propellers will increase thrust for heavy weight and short field operations. Additionally, the new propellers will increase engine efficiency under normal flight conditions
- The design of the new NP2000 Propeller allows individual blades to be removed for maintenance rather than having to remove the entire hub assembly as is required with current propellers. This will result in decreased sustainment cost and increased mission capable rates
- The new NP2000 eight (8) bladed propellers have proven to reduce engine vibration resulting in less fatigue on both the aircraft and aircrew

REQUIREMENT

- Replace legacy 54h60 four (4) bladed propeller with new NP2000 eight (8) bladed propellers for increased thrust, decreased sustainment costs, and decreased aircraft and crew fatigue on AFRC HC-130 aircraft

UNITS IMPACTED

- 920th Rescue Wing, Patrick AFB, FL

CONTRACTOR: Hamilton-Sunstrand, Windsor Lock, CT

PROGRAM ELEMENT CODE: 53122F

ITEM IN AF POM: No

HC-130 Electronic Propeller Control System (EPCS)

BACKGROUND

- The EPCS provides increased reliability and operational responsiveness of propeller control which is frequent source of failure. The legacy system is based on 1950's technology using springs and flyweights and is the cause of numerous types of propeller malfunctions. This results in increased maintenance and operational costs
- A new EPCS has been developed for use on C-130 aircraft which would reduce maintenance down time, reduce sustainment cost and increase aircraft availability. Test aircraft with the EPCS have observed markedly greater reliability and operator satisfaction with prop responsiveness
- The mishap investigation report following the crash of a C-130H2 in Baghdad directly contributed the compressor stalls of three engines to the rapid throttle movements by the pilot. The current hydro-mechanical valve system has limited capability to anticipate propeller control based on the rate of throttle movement. EPCS has a much greater capability to handle rapid throttle inputs thus preventing potential compressor stalls
- EPCS replaces the syncrophaser system which is another possible cause of multiple engine rollbacks. The electronic control greatly reduces propeller vibration which has a direct impact on the lifespan of the aircraft, aircraft equipment, and aircrew fatigue

REQUIREMENT

- Procure and install the Electronic Propeller Control System (EPCS) on AFRC HC-130 aircraft

UNITS IMPACTED

- 920th Rescue Wing, Patrick AFB, FL

CONTRACTOR: Hamilton-Sunstrand, Windsor Lock, CT

PROGRAM ELEMENT CODE: 53122F

ITEM IN AF POM: No

HC-130 In-Flight Propeller Balancing System (IPBS)

BACKGROUND

- Aircraft propellers experience two primary sources of imbalances: mass and aerodynamic
- Aerodynamic imbalances are due to the differences in lift and drag forces acting on each propeller blade. On the C-130 propeller, these aerodynamic imbalances are significant because the aluminum blades are hand shaped during original manufacture and experience varying degrees of wear in service
- An In-Flight Propeller Balancing System (IPBS) would automatically balance propellers to 0.05 ips at all power settings and conditions
- The aircraft propeller controls, engine components (reduction gear box, power section, accessories, and the QEC structure), and the QEC to wing support structure have long been at the top of the list as sustainment and cost of ownership drivers
- Although difficult to quantify, balancing the propellers would result in less vibration to the aircraft engines, aircraft and onboard avionics. The US Navy conducted a test demonstrating a 27% increase in reliability of avionics installed forward of the FS 245 rack

REQUIREMENT

- Procure and install the In-Flight Propeller Balancing System (IPBS) on AFRC HC-130 aircraft

UNITS IMPACTED

- 920th Rescue Wing, Patrick AFB, FL

CONTRACTOR: Lord Corp., Arlington, MA

PROGRAM ELEMENT CODE: 53122F

ITEM IN AF POM: No

HC-130 AAR-47 BV2 MWS/Hostile Fire Indication System

BACKGROUND

- Air Force Reserve Command (AFRC) Personnel Recovery aircraft require a Hostile Fire Indication System for use in HC-130's to counter this increasing threat
- Hostile fire events include Rocket Propelled Grenades (RPGs), Anti-Aircraft Artillery (AAA), heavy machine guns, Anti-Tank Guided Missiles (ATGM), and even small arms
- At least fourteen aircraft, including helicopters, have been brought down by hostile fire. Even more alarming, aircrews are often unaware their aircraft were the targets of hostile fire until post-flight inspections reveal evidence of damage by hostile fire

REQUIREMENT: Provide a Hostile Fire Indication System to each AFRC HC-130 aircraft

UNITS IMPACTED

- 920th Rescue Wing, Patrick AFB, FL

CONTRACTOR: TBD

PROGRAM ELEMENT CODE: 53122F

IN AF POM: No

HC-130 Personnel Recovery Common Data Link

BACKGROUND

- HC-130 aircrews require immediate improvements to their situational awareness and access to Tactical Common Data Links
- Tactical Common Data Links will be used by aircrews and personnel recovery rescue teams for situational awareness, threat avoidance, in-flight replanning, weapons cueing, and fratricide prevention. Personnel recovery missions have a long duration and are unable to receive tactical real-time in-flight situational awareness updates provided by Joint Personnel Recovery Center
- Personnel Recovery aircraft to include HH60 helicopters and Guardian Angel Teams are pursuing compatible, Tactical Common Data Links for the exchange of mission-critical information

REQUIREMENT

- Provide a Common Tactical Data Link to each HC-130

UNITS IMPACTED

- 920th Rescue Wing, Patrick AFB, FL

CONTRACTOR: TBD

PROGRAM ELEMENT CODE: 53122F

IN AF POM: No

Guardian Angel Personnel Recovery Mission Equipment

BACKGROUND

- Air Force Reserve Command (AFRC) Guardian Angel Personnel employ a variety of tactical equipment devices and systems to effect the safe recovery of personnel in all types of environments to include urban or remote locations and maritime, mountainous, desert, and Arctic conditions
- Air Force Reserve Command (AFRC) Guardian Angel Personnel have assembled a Communication and Self-Defense system compatible for use with HH-60G's and HC-130's during Rescue and Recovery operations
- The tactical equipment and systems require periodic replacements, upgrades, and enhancements to keep operations capable and current due to equipment obsolescence and normal wear and tear during training and real world operations

REQUIREMENT

- Replace and upgrade the GA Tactical Equipment, Communications and Self-Defense Systems:
    - Advanced Rescue Craft, Sonar Systems and Safety Boat
    - Environmental Survivability Ensemble
    - Individual and Tandem Ram Air Parachute Systems
    - Mission Data Management Systems
    - Multi-Role Medium Range Defensive Weapon

UNITS IMPACTED

- 920th Rescue Wing, Patrick AFB, FL
- GSU GAWS at Davis-Monthan, AZ
- Portland IAP, OR

CONTRACTOR: Various TBD

PROGRAM ELEMENT CODE: 53133F

IN AF POM: No

Simulators

Provides worldwide combat search and rescue in support of U.S. national defense.

Simulators provide premier training, world-class facilities, and modern equipment.

While weapons systems are an integral part of the Air Force, the heart of the Air Force combat capability resides with Airmen. To meet Total Force requirements, the Air Force Reserve must train and develop Citizen Airmen needed to operate and support Air Force weapon systems. To ensure this, the Air Force Reserve must provide premier training, world-class facilities, and modern equipment. Air Force Reserve Airmen are called on to perform a wide array of demanding duties. This requires updated, tactical technologies that put them on par with their Active Duty counterparts. Additionally, Reserve vehicles are the oldest of any Air Force component and in order to reduce aging, they require the newest training systems, or simulators. To remain the world's premier Air Force, our Airmen must be adequately equipped to train as they will fight. The cornerstone of providing training outside of flying, the simulators must be viable, concurrent and high fidelity. In this area, our commitment cannot waiver. Our Airmen need to be ready at all times and the most up to date simulators can help achieve this goal.

EXECUTIVE SUMMARY

- AFRC Simulator Upgrades - Hardware upgrades to new Line-Replaceable Units, quick disconnects and multiple other components have been and are required due to re-wiring, obsolescence and changes to the actual aircraft that make the simulators non-concurrent
- F-16 CDU - Replace AFRC A-10/F-16 aging flight instruments on the center pedestal with a digital Center Display Unit (CDU) display
- F-16 HMIT - Provide HMIT capability to AFRC A-10 and F-16

Simulator Hardware Upgrades

BACKGROUND

- Simulator hardware upgrades to new Line-Replaceable Units and quick disconnects have been required periodically for many years due to obsolescence and upgrades. There are cockpit displays and panels that require upgrade as well because of the aircraft changes being made. Wiring bundles, glass cockpit enhancements and outdated bezels have diminished cockpit maintainability and aircraft concurrency. The overall obsolescence has led to safety issues and negative training. Age has added maintenance time and cost while lack of concurrency has degraded training and reduced flying hour savings

REQUIREMENT

- Re-configure and technology refresh all required training devices (A-10C, C-5, C-17, C-130, F-16C, HH-60G, KC-135, etc.) to significantly improve the ability to conduct maintenance, improve reliability, improve safety, improve training, save flying hours and comply with Congressional House Record H1254 anticipating use of a portion of NGREA be for simulation training systems

UNITS IMPACTED

- All

CONTRACTOR: Various as required

PROGRAM ELEMENT CODE: All

IN AF POM: No


FlightSafety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Aircraft Recapitalization

In the United States Air Force Posture Statement 2012, the Air Force emphasizes the new strategic direction laid out by the Department of Defense that results in making hard choices in this new fiscal environment by trading size for quality. This new defense strategic guidance for an era of constrained resources is reflected in the acquisition and modernization priorities for the Regular Air Force, Air Force Reserve (AFR), and the Air National Guard (ANG).

Strategic placement of Air Force assets, such as aircraft, is determined through corporate-level processes involving both the Active Component (AC) and Reserve Component (RC). Aircraft modernization is addressed through mission capability requirements identified by the Core Function Lead Integrator (CFLI) and through RC requirements needed to perform assigned missions. These efforts attempt to ensure a mission-ready, mission-capable force to meet the Air Force's vision, mission, and priorities.

In February 2012, the Chief of Staff, United States Air Force (CSAF) issued a document called: Air Force Priorities for a New Strategy with Constrained Budgets. This document explains that 1) the Active and Reserve Components were carefully balanced to preserve both readiness and capability in the FY 2013 budget submission, and 2) a modern force is necessary to meet future challenges. With the challenging fiscal constraints, both the Air National Guard and the Air Force Reserve will continue to rely on the National Guard and Reserve Equipment Appropriation (NGREA) to play a pivotal role in preserving the operational force and strategic reserve that the Air Force needs, including Fleet Recapitalization.

The Chief acknowledges the hard choices the Air Force has made while aligning strategic guidance with fiscal realities by trading size for quality. Generally, the Air Force is choosing to slow the pace and scope of modernization across its fleets. A delicate balance is sought between funding weapon system upgrades, funding service-life extension programs such as those for the F 16 and HH-60G, and funding high priority recapitalization programs such as the F 35 and KC 46. These decisions regarding allocation of scare resources particularly impact RC fleets, as modernization and recapitalization investments are normally applied so as to satisfy Active Duty Air Force requirements first.

EXECUTIVE SUMMARY

- HC-130J CSAR Recapitalization – Aging HC-130P/N aircraft are presently being replaced with new HC-130J aircraft. However, there is currently only POM funding to replace 31 of 37 aircraft. The 6 remaining un-recapitalized aircraft are AFRC assets located at Patrick AFB, FL
- C-130 Tactical Airlift Recapitalization – Aging C-130H aircraft are presently being replaced with C-130J aircraft. AFRC presently prosecutes the Tactical Airlift mission with 84 C-130H aircraft, most approximately 40 years old and becoming increasingly expensive to sustain

HC-130J Recapitalization (AFRC)

BACKGROUND

- AFRC HC-130P/N aircraft require replacement due to age and serviceability issues
- AFRC prosecutes the Personnel Recovery mission with 6 HC-130P/N aircraft
- This is a Low Density/High Demand (LDHD) system in support of an Air Force core value of Personnel Recovery

REQUIREMENT/SOURCE OF NEED

- AFRC 10th Air Force has responsibility for this mission. Due to serviceability, modification schedules, high operations tempo and the unique training challenges faced by the ARC, AFRC proposes a one for one replacement plan for a status quo, but desires a 6+2 replacement plan. 8 aircraft would provide 2 full 3-ship packages for deployment, plus allow for training and proficiency to continue at home station during deployments
- Under the existing program of record, 31 of 37 existing HC-130s are being recapitalized with HC-130Js. While aircraft distribution is still being finalized (as of September 2013), AFRC has proposed retaining 6 existing HC-130 aircraft at Patrick so as to avoid force structure reductions to this low density/high demand asset

UNITS IMPACTED

- 920th Rescue Wing, Patrick AFB, FL

CONTRACTOR: Lockheed Martin, Marietta, GA

PROGRAM ELEMENT CODE:

IN AF POM: No

C-130J Recapitalization (AFRC)

BACKGROUND

- AFRC C-130 aircraft require replacement due to age and serviceability issues
- AFRC prosecutes the Tactical Airlift mission with 84 C-130H aircraft
- This is in support of an Air Force mobility mission

REQUIREMENT/SOURCE OF NEED

- AFRC 22nd Air Force has responsibility for this mission. Due to serviceability, modification schedules, high operations tempo and the unique training challenges faced by the ARC, AFRC proposes a one for one replacement plan for status quo support
- AFRC currently supports AEF rotations into AORs
- Recapitalization of existing AFRC C-130H aircraft with new C-130J aircraft is not currently projected within the POM FYDP window

UNITS IMPACTED

- 302nd Airlift Wing, Peterson AFB, CO
- 910th Airlift Wing, Youngstown, OH
- 914th Airlift Wing, Niagara Falls, NY
- Det 1, Little Rock AFB, AK
- 934AW, Minneapolis-Saint Paul, MN
- 911AW, Pittsburgh IAP-ARS, PA
- 908AW, Maxwell AFB, AL; 94AW, Dobbins ARB, GA

CONTRACTOR: Lockheed Martin, Marietta, GA

PROGRAM ELEMENT CODE:

IN AF POM: No

Acronyms

AAA Anti-Aircraft Artillery
ACM Additional Crew-Member
ACS Agile Combat Support
ACCES Attenuating Custom Communications Earphone System
AF Air Force
AFR Air Force Reserves
AFRC Air Force Reserve Command
AMC Air Mobility Command
AIFF Autonomous Identification Friend Foe
AMP Avionics Modernization Program
ANR Active Noise Reduction
ANW2 Adaptive Networking Wideband Waveform
AoA Analysis of Alternatives
ADS Aircraft Defensive Suite
AOR Areas of Responsibility
ARS Air Reserve Squadron
ASA Air Sovereignty Alert
ATC Air Traffic Control
ATCT Air Traffic Control Tower
ATGM Anti-Tank Guided Missiles
ATM Air Traffic Management
ATP Advanced Targeting Pod

BLOS Beyond Line of Sight
BTMS Brake Temperature Monitoring System

C2 Command and Control
CAA Civil Aviation Authorities
CAF The Combat Forces
CCD Charged Coupled Devices
CDU Center Display Unit
CE Civil Engineering
CFCC Commercial Fire Control Computer
CFR Code of Federal Regulations
CIO Chief Information Officer
CMDS Counter Measure Dispense System
CNS Communication, Navigation, Surveillance
CPC Combat Planning Council
CSAR Combat Search and Rescue
CODEL Congressional Members/Delegations
CRO Combat Rescue Officers
CPCs Combat Planning Councils

DoD Department of Defense
DMDR Digital Mission Data Recorder

EEFCC Expanded Enhanced Fire Control Computer
EPCS Electronic Propeller Control System
EWA Enhanced Wing Assembly

FAA Federal Aviation Administration
FDP Flight Duty Period
FLIR Forward Looking Infrared
FTU Formal Training Unit

G4 Generation Four
GA Guardian Angel
GCA Ground Control Approach
GPS Global Positioning System

HFI Hostile Fire Indication System
HMIT Helmet Mounted Integrated Targeting

IAP International Airport
ICAO International Civil Aviation Organization
ICDS Improved Container Delivery System
ICS Intermediate Contract Support
IOS Instructor Operating System

For program impact and data specifics contact Air Force Directorate of Programs and Requirements at (703) 695-9056.

IPBS In-Flight Propeller Balancing System
IR Infrared
JDAM Joint Direct Attack Munitions
JPADSMP Joint Precision Airdrop System Mission Planning Software
JRP Joint Reserve Base

LAIRCM Large Aircraft Infrared Countermeasures
LDHD Low Density High Command
LED Light Emitting Diode
LMR Land Mobile Radio
LSS/LST Laser Spot Search and Track

MAJCOM Major Command
MANPADS Man-Portable Air Defense System
MASS Modular Arial Spray System
MCEB Military Communications Electronic Board
MTBF Mean Time Between Failures
MTC Modern Technology Corp
MTT Multi-Task Trainer
MWS Missile Warning System

NCCs Network Control Centers
NVG Night Vision Goggles
NVIS Night Vision
NRE Non-Recurring Engineering

OEF Operations ENDURING FREEDOM
OIF IRAQI FREEDOM
ONE Operation Noble Eagle

PIRL Prioritized Integrated Requirements List
PJ Pararescuemen
PnP Plug-N-Play
POM Progam Objective Memorandum

RERP Re-Engineering Program
RNP Required Navigation Performance
RPG Rocket Propelled Grenadess
RQW Rescue Wing
RT Recovery Teams
RTIC Real Time Information in the Cockpit
RWR Radar Warning Receiver

SAASM Selective Availability Anti-Spoofing Module
SADL Situational Awareness DataLink
SE Support Equipment
SERE Survival, Evasion, Resistance, and Escape Specialists
SE Sensor Enhanced
SF Security Forces
SLOS Secure Line of Sight
SRW Soldier Radio Waveform
STEM System Telecommunications and Engineering Management

TLMR Trunked Land Mobile Radio
TOLD Take Off and Landing Data
TSRA Training Systems Requirements Analysis

UPS Uninterrupted Power Supply

VOIP Voice over Internet Protocol

WST Weapon Sytem Trainer

For program impact and data specifics contact Air Force Directorate of Programs and Requirements at (703) 695-9056.